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ABSTRACT

This paper sketches an explicitly non-lexicalist application of grammatical theory to Huallaga (Huanuco) Quechua (HgQ). The advantages of applying binding theory to many suffixes that have previously been treated only as objects of the morphology are demonstrated. After an introduction, section 2 outlines basic assumptions about the nature of HgQ categories and structures, and section 3 discusses inflection, proposing an analysis of SUBJECT MARKING ANOMALY phenomena. Section 4 argues that HgQ's complementizers are really its case-marking suffixes. Section 5 deals with the possessive suffixes, showing that in Agr-P they are mildly anaphoric. Section 6 focuses on switch reference, deriving a wide range of facts from some structural assumptions and then claiming that "-r" 'advss' is anaphoric and the possessive suffixes in Agr-S are pronominal. Section 7 discusses "infinitives," claiming that "-y" is anaphoric. Section 8 discusses uses of "-q," claiming that it is anaphoric. Section 9 sketches one verb incorporation phenomenon and shows how this fits in with other claims made here. Section 10 describes differences between HgQ and the Quechua of Ancash. (JL)

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THE BINDING PROPERTIES OF QUECHUA SUFFIXES *

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1 Introduction

This paper sketches an explicitly non-lexicalist application of grammatical theory to Huallaga (Huánuco) Quechua (henceforth HgQ). I hope to demonstrate the advantages of applying the binding theory to many suffixes that have previously been treated only as objects of the morphology. This is possible only if morphology and syntax are more intimately related than allowed under the lexicalist hypothesis.

Section 2 outlines some basic assumptions (categories, structures, Case assignment, θ-marking, etc.) Section 3 discusses inflection, proposing an analysis of SUBJECT MARKING ANOMALY phenomena. Section 4 argues that HgQ's complementizers are really its case-marking suffixes. Section 5 deals with the possessive suffixes, showing that in Agr-P they are "mildly" anaphoric; 5.3 argues that there is a null possessive suffix, -ø '12p'. Section 6 deals with switch reference, deriving a wide range of facts from some structural assumptions and then claiming that -*r* 'advss' is anaphoric and the possessive suffixes in Agr-S are pronominal. Section 7 discusses "infinitives," claiming that -*y* is anaphoric. Section 8 discusses various uses of -*q*, claiming that it is anaphoric. Section 9 sketches one verb incorporation phenomenon and how this fits in with other claims made here. Section 10 describes some differences between HgQ and the Quechua of Ancash.

Some disclaimers are in order:

1. This is work in progress. About certain aspects I feel quite confident; about others, I am uncertain. For example, I have little conviction about the number of bar levels for various categories. Despite my uncertainties, I have made explicit statements out of the conviction that this best serves the enterprise of either refining or falsifying them.

2. I am more concerned with certain leading ideas than with the details of implementation.

3. The claims made below do not stand or fall together. What I believe about the Case assignment properties of verbs, for example, has no logical connection with my claim that *-y* is an anaphor.

4. The claims made here are principally for HgQ and should not be interpreted as directly applicable to other Quechua languages, which differ in significant respects.[1] For example, HgQ case-marking possibilities for the subjects and objects of nominalized clauses differ from those in Cuzco Quechua (henceforth CzQ, see Lefebvre and Muysken [21]) and there is nothing in HgQ to motivate a lexical complementizer as there is in CzQ. Ecuadorian Quichua (EcQ) differs in lacking possessive suffixes, which play a central role in our analysis of HgQ. Even Ancash Quechua (AnQ),[2] which is relatively close to HgQ, differs significantly, as discussed in section 10.

5. Although I represent reference in terms of indices, I am not taking a stand in favor of indexing over linking theory. Some of what I propose might work out better under a linking theory. Likewise, I am not taking a stand on whether empty categories have inherent properties or should be functionally determined.

6. I make many claims that depend on the structural position of one clause with respect to another. I generally use examples with surface structures that fit my claims while recognizing that—in light of HgQ's rather free constituent order—many surface structures would not directly fit them. I feel free to do this because the binding principles are imposed at LF (logical form) rather than s-structure. I assume that between s-structure and LF, move-α moves clauses to the positions in which they are interpreted.[3]

7. Claims made in terms of phrase structure rules may be reinterpreted as claims about subcategorization frames, along the lines of Stowell [33].

The theoretical perspective adopted here is generally that of Chomsky's [4] Government and Binding theory; of course, a lot of water has gone under the bridge in the last decade. Fundamentally we assume the Binding Theory (Chomsky [4, p.188]), expressed in the following three "principles":

Principle A: An anaphor must be bound in its governing category.

Principle B: A pronominal must not be bound in its governing category.

[1] If Alfredo Torero is correct in speaking of two thousand years of diversification, proto-Quechua predates proto-Romance by 500 years.

[2] I have drawn examples from both Huaylas (HyQ) and Conchucos (CoQ). Unless it is important to distinguish between these, I simply use AnQ.

[3] This might be something like van Riemsdijk and Williams' [34, p.211] "reconstruction," which moves elements back to the position in which they were generated.

Principle C: A referring expression ("R-expression") must not be bound (i.e., it must be "free").

Time, space, energy, (intelligence, knowledge, will, etc.) do not permit me to give detailed arguments for all the claims I make here. Nonetheless, I hope to demonstrate that the perspective presented here is coherent and provides explanations (admittedly theory-dependent ones) for a wide range of facts about Quechua.

2 Categories and phrase structure rules

This section sketches some fundamental assumptions about the nature of HgQ categories and structures. I do not hold all of these with equal conviction; some are merely working assumptions to get on with the job.

2.1 Morphological categories

Weber [41] argues that HgQ morphological categories result from the following system of features:

$$\longrightarrow \begin{cases} \longrightarrow \begin{bmatrix} +complete \\ -complete \longrightarrow \begin{bmatrix} +bivalent \\ -bivalent \end{bmatrix} \end{bmatrix} \\ \longrightarrow \begin{bmatrix} +verbal \\ -verbal \longrightarrow \begin{bmatrix} +nominal \\ -nominal \end{bmatrix} \end{bmatrix} \end{cases}$$

Figure 1: Features

These possibilities account for the major lexical categories (X^0's) as well as structures projected from them. Note that there is no category of adjectives (which form a single category with nouns, Weber [42, p.35,36]), nor are there prepositions.

The difference between X[+nominal] and X[−nominal] is that the former requires Case (except as discussed below) whereas the latter refuses it. The category of *-q* is [−verbal]; when it occurs in an environment where it is assigned Case (e.g., as a sister to P or Agr-S) it must be [+nominal], whereas in contexts where it is not assigned Case, it must be [−nominal].

There are three types of S:

1. S[+verbal] are finite clauses, with tense markers like -ø 'present' and -*ra* 'past'. In phrase markers these are labeled simply "S".

2. S[+nominal] are substantivized clauses with -*shqa*, -*na* and -*q*, as occur in relative clauses and complements. In phrase markers these are labeled "SN".[4]

3. S[−nominal] are adverbial clauses with -*pti*, -*shpa* and -*r* (as well as one case of -*sha*, to be discussed). These occur without case marking and demonstrate switch-reference. In phrase markers these are labeled "SA".

2.2 Structure

I make the following assumptions about phrase structures:

1. HgQ is head final, so the most fundamental rule is

   (1) $X^k \longrightarrow Y^{max}\ X^{k-1}$

   I assume either one or two bar levels for each category,[5] so $k = 1$ or 2. Thus, the basic rules are: $X^2 \longrightarrow Y^2\ X^1$ and $X^1 \longrightarrow Y^2\ X^0$.

2. Following Chomsky [7], S is projected from the subject agreement (Agr-S). I assume Emonds' SUBJECT PRINCIPLE: "Phrasal arguments of X external to $\bar{X}$ (i.e., subject phrases) must be NP's." For HgQ, this applies to finite clauses, substantivized clauses (substantivized complements and relative clauses) and to adverbial clauses. However, when the verb is substantivized or adverbialized, I assume that the index of Agr-S does not percolate to the S; this is presumably due to the fact that, in these cases, Agr-S is realized by a possessive person-marking suffix rather than a verbal person marker.

---

[4] This is quite similar to Hale and Platero's proposal ([19, p.31]):

> ...Specifically, it is suggested that nominalized sentences are maximal (two-bar) projections of the following feature composition: [+S,+N]. That is to say, they are simultaneously sentential and nominal. This combination of features, we contend, is to be understood in a special way. The category [+S,+N] has the *internal* make-up of a sentence, but *externally* it exhibits the syntactic behavior of a noun phrase...

Lefebvre and Muysken [21] reject this analysis for Cuzco Quechua. They treat nominalizations as verbal projections with variation at each of three bar levels to predict various case marking possibilities. Huallaga Quechua is not compatible with such an analysis because—unlike the situation in Cuzco Quechua—case marking within subordinate clauses is like that in main clauses.

[5] Perhaps a single bar level (uniformly) would suffice: [$_{VP}$ NP V], [$_{S}$ NP V Agr-S], etc. Quechua's non-configurational characteristics would follow from its rather free adjunction.

On the other hand, there are some advantages to projecting sentences from verbs. Emonds [13] claims that universally verbs have three bar projections, the subject NP being the specifier at the third level, but that the other categories only have two levels. Lefebvre and Muysken [21] assume three bar levels for the major categories of CzQ.

3. Here, "preposition" will refer to a case marking suffix, despite the fact that these are case-marking post-positioned clitics; they are suffixes for the morphology and prepositions for the syntax. I withhold judgment as to whether two bar levels are justified for prepositions,[6] representing only a single level in this paper:

   (2) $P^{max} \longrightarrow X[+nominal]^{max}\ P^0$

4. Languages with a distinct category of adjective allow adjective phrases to modify nouns and their projections. For Quechua, where adjectives and nouns form a single category, rule 3 allows substantives to modify substantives (with appropriate values for j and k[7]).

   (3) $X[+nominal]^j \longrightarrow Y[+nominal]^{max}\ X[+nominal]^k$

   Due to the head parameter, $Y[+nominal]^{max}$ is the modifier and $X[+nominal]^k$ is the head. The X[+nominal] modifier need not be assigned Case (presumably because it does not get a θ-role?). This rule is used for adjective phrases, relative clauses and for perhaps even compounds.

5. Rule 4 allows prepositional phrases to adjoin rather freely, where $k = j$ or $k = j - 1$:

   (4) $X^j \longrightarrow P^{max}\ X^k$

   For English, Emonds [13, p.27ff] demonstrates that X may be V, N, A, or P, but for HgQ the possibilities are more restricted. There never seem to be P's following V's.[8] There is a surprising absence of cases of $[_{NP}\ P^{max}\ NP]$. For example, *rumi wasi* 'stone house' is grammatical but **rumi-pita wasi* 'house of stone' is not.[9]

   In a case-marked substantive, i.e., a P^{max} with an $X[+nominal]^{max}$ complement, the feature [+nominal] percolates morphologically. Therefore, P^{max} is a possible

[6] Perhaps examples like $[_{P''}[_{P'}$ chay $[_P$ -pita]] pacha] 'all the way from there', $[_{P''}$ hinan $[_{P'}$ marka $[_P$ -man]]] 'right to the town', or $[_{P''}$ asta $[_{P'}$ marka $[_P$ -kama]]] 'all the way to the town' motivate the second level. More significantly, we claim below that $P = C(omp)$ and $P^{max} = C^{max}$; Baker's [1, ch.4] account of case variation in verb incorporation depends on C(omp) having two levels, distinguishing V-to-C movement from VP-to-Comp movement. If we adopt his analysis—coupled with the claim that $P = C(omp)$—then P^{max} must be P^2.

[7] Perhaps $j = k = 1$ or perhaps $k = j - 1$.

[8] I am assuming that *-man* 'conditional' as in *aywa-n-man* 'he might go' and *-paq* 'future' as in *aywa-shaq-paq* 'I will go' are not P's.

[9] Perhaps this is because substantives do not assign θ-roles indirectly, so P^{max} sisters to substantives are filtered out by the θ-Criterion. But why can't the P directly assign a θ-role? I do not know.

sister to P. This allows multiple case markers as in [$_{P^{max}}$[$_{P^{max}}$[$_{NP}$ *ha:cha*]-*wan*]-*naw*] 'as though with an axe', where both *-wan* and *-naw*[10] are prepositions. (See Emonds [13, p.33] for English examples.)

6. I assume HgQ to be configurational.[11] Subjects c-command their objects, but objects do not c-command their subjects.[12] There is a VP node, which is a maximal projection. However, a rule like $V^1 \longrightarrow N^{max}\ V^0$ is *not* needed for direct objects because direct objects are prepositional phrases, admitted by $V^1 \longrightarrow P^{max}\ V^0$ (an instance of rule 4).

7. Rule 5a (where α ranges over all possible bar levels) allows adverbial clauses to adjoin to verbs or verbal projections:

(5) a. $V^\alpha \longrightarrow X[-\text{nominal}]^{max}\ V^\alpha$
b. $S \longrightarrow X[-\text{nominal}]^{max}\ S$
c. [$_{CP}$ Comp [$_{C'}$ C IP]]

Adverbial clauses may also be sisters to a sentence, for which I propose rule 5b. If we consider every sentence to have the structure of 5c, adverbial clauses could occupy the Comp position.[13]

Recall that rule 4 allows $V^\alpha \longrightarrow P^{max}\ V^\alpha$. The similarity of this and rule 5a accounts for the distributional similarity of prepositional phrases (P^{max}) and adverbial clauses ($X[-\text{nominal}]^{max}$).[14]

2.3 Selection and subcategorization

Chomsky's [6] theory of barriers depends on whether or not a constituent is L-marked. Baker [1, p.56f] rephrases this in terms of "selection," which term I will use here.

I assume that whatever features distinguish these (features like [±nominal]) percolate morphologically so that selection (subcategorization) can refer to the feature

[10] *-naw* takes a predicate attributive complement; Emonds [13, section 6.3].

[11] HgQ demonstrates the following of Hale's [17] features of a non-configurational language: (a) It has very free word order. (b) It has discontinuous constituents. (c) It has frequent pro drop. (d) It lacks pleonastic NP's. (e) It uses a rich case system. (f) Its verbs are morphologically complex.

[12] This is unproblematic in most cases, but not when the subject comes between the object and the verb; there are various ways this might be handled, but considering these would take us too far afield for present purposes.

[13] That would be fine as the target of movement, but not as a site at which to generate them. For that reason, rule 5b is probably also necessary.

[14] There are also many *functional* similarities between adverbial clauses and prepositional phrases. For Ecuadorian Quichua, Muysken [24, p.29] claims that the suffix /-kpi/, which forms different subject adverbial clauses, "is derived from the nominalizer /-k/ and the locative postposition /-pi/." Although the diachronic claim is somewhat dubious, there is no doubt that functionally it makes little or no difference whether it is an adverbializer or a case-marked substantive.

at the level of the selected (subcategorized) structure. For example, since *aywa-sha-n-ta* is morphologically a single word (although syntactically a prepositional phrase), [+nominal] and whatever other features distinguish *-sha* from the other subordinators percolate to the P^{max}. The same is true for case markers. Since I have not elaborated this system of features, as a notational stop-gap measure I will use the subordinator or case marker itself as a feature, e.g., [+sha], [+ta]. (Since this makes [±nominal] redundant, I will not include it.)

Verb roots subcategorize for their P^{max} complements. For example, the transitive verb *chura-* 'place' has two possible meanings, each with a different subcategorization frame: (i) 'to locate at some place' [($P^{max}_{[+mas]}$) __], (ii) 'to place in some office/position' [($P^{max}_{[+psq]}$) __]; Weber [42, p.230].

Verbs stems may also subcategorize for their P^{max} complements; verbal suffixes may alter the root's subcategorization. For example, *puñu-* 'sleep' may occur with a locative adjunct, e.g., *Chay-chaw puñun* 'He sleeps in there (locative)' but *puñu-ykU-* 'sleep' may occur with a goal, e.g., *Chay-man puñuykun* 'He lays himself down to sleep there (goal)'; Weber [42, p.228].

Verbs may select complements with a particular subordinator (*-y*, *-q*, *-r*, *-na*, *-shqa*, *-pti*):

- MOTION verbs (e.g., *aywa-* 'go' and *kacha-* 'send') select an optional purpose motion complement: [(S[+q]) __]; see section 8.3.

- INFINITIVE OBJECT COMPLEMENT verbs (e.g., *muna-* 'want' and *qalla-* 'begin') select an optional infinitive object complement: [(P[+y,+ta]^{max}) __]; Weber [42, p.25,6, footnote 5].

  Some infinitive object complement verbs (but not all) also select a complement with *-na*: [(P[+na,+ta]^{max}) __]. For example, *muna-* 'want' does but *qalla-* 'begin' does not.

- Some PHASAL verbs (e.g., *usha-* 'finish', *qalla-* 'begin') select same-subject adverbial clauses with *-r*: [(S[+r]) __]. Dialects vary as to whether the complement to a phasal verb is an infinitive object or a same subject adverbial clause (or whether both are possible). For example, in HgQ 6a is the usual form and 6b is possible but highly unusual. By contrast, in Huamalies Quechua both are possible, but 6b is the more common:

  (6) miku- eat { a. -y-ta (-inf-obj) / b. -r (-advss) } usha-ra-n finish-pst-3 'He finished eating.'

- SENSORY verbs (e.g., *rika-* 'see') select an optional object complement substantivized by *-q*: [(P[+q,+ta]^{max}) __]; Weber [42, 289]. Sensory verbs may occur with a direct object but without a complement, e.g., *Hwan-ta rika-n* (John-obj see-3) 'He sees John.' In this case the direct object receives *rika-*'s θ-role (for

the thing seen). When a complement also occurs, the complement receives that θ-role, although *rika-*'s Agr-O agrees with the direct object. For example, in

(7) Hwan qam-ta puñ-yka-q-ta rika-shu-ra-yki 'John saw you sleeping.'
John you-obj sleep-impf-sub-obj see-2obj-pst-2

Here, the complement [e *puñuykaq*] 'you are sleeping' receives *rika-*'s θ-role; the external argument of the complement appears as *rika-*'s direct object.

- FACTIVE verbs (e.g., *musya-* 'know') may occur with an object complement with *-sha* or *-na*. However, it is argued below that these verbs do not select such complements.

2.4 Case assignment

Subject agreement (Agr-S) assigns Case to the subject NP. Lefebvre and Muysken [21, p.49] write, "Subject agreement is described ...in terms of the assignment of subjective Case to the NP which is the immediate sister of AGR."

Prepositions are Case assigners, and NP's (other than subjects) generally receive Case from a preposition, rather than directly from a verb (root or stem). However, there are rare cases like 8a in which the NP must receive case directly from the verb.

In HgQ, virtually the only place where *-ta* 'obj' may be omitted is within a purpose-motion complement when (i) the object directly precedes the verb and (ii) the object NP is third person.[15] For example, in 8b, *Marya* must be assigned Case by *rika-*:

(8) Hwan shamu-sha {a. Marya rika-q (Mary see-sub)}
John come-3perf {b. *noqa rika-ma-q (me see-1obj-sub)}

'John came to see {a. Mary / b. me}.'

In such cases the verb must assign Case to the object.

Consider predicate complements to *ka-* 'be' like *runa* 'man' in *Hwan [runa karan]* 'John was a man' and *hatun* in *Hwan [hatun karan]* 'John was big.' Either these are not subject to the Case Filter because they are not arguments or they are exceptionally assigned nominative case by *ka-* 'be'.[16]

[15]This can be explained as follows: When an overt object agreement marker occurs, like *-ma:* in 8, it absorbs the Case assigned by the verb. Only when the object is third person, for which the agreement marking is implicit, is the verb's Case available for assignment to the object.

[16]The suffixes *-hina* and *-niraq* must have recently developed from verbs that directly assigned Case to prepositionless complements.

2.5 θ-roles

I assume Emonds' theory [13] of indirect θ-role assignment, whereby a verb may assign a θ-role to an NP in a prepositional phrase. Verb roots and stems generally assign θ-roles to their complements *indirectly.*[17]

The projection principle and the theta criterion work together to impose the following constraint (approximately stated): the θ-roles (semantic relations) determined by lexical items in d-structure must be preserved in s-structure and LF. This rules out analyses like "subject to object raising" to derive, for example, 9b from 9a:

(9) a. Hwan mayasha [(qam) chakraykita hampiykaqta]
John sensed(3obj) you your field treating

b. Hwan qam$_k$-ta mayashurayki [t$_k$ chakraykita hampiykaqta]
John you-obj sensed(2obj) your.field treating

'John smelled you putting insecticide on your field.'

In 9b *qam* 'you' is the agent of *hampi-* 'treat' and must not be assigned a competing θ-role by *maya-* 'sense', despite its triggering verb agreement in the higher clause. (As Teodoro Cayco said, "That is how we say it, even though it is the insecticide that John smells.") Emonds' extended θ-criterion allows an analysis of 9 in which *qam* 'you' is assigned its θ-role by *hampi-* 'treat'.

When *-ta* 'obj' heads a direct object phrase, it does not assign a θ-role, this being assigned indirectly by the verb. That is not to say that *-ta* never assigns a θ-role directly. In 10, where it accompanies the intransitive verb *aywa-* 'go', *-ta* assigns a θ-role indicating the terminus of some motion.[18] (Note that this is not a (grammaticized) direct object.)

(10) Pillku-ta aywa-yka-:. 'I'm going to Pillku.'
Pillku-obj go-impf-1

Since *-ta* may directly assign a θ-role, it is possible to have two *-ta*-marked NP's. The verb assigns a θ-role to the direct object, but Agr-O reflects the person of the indirect object, which gets its θ-role directly from the preposition; see 11:

(11) Marya-ta shikra-ta qo-yku-shka-: 'I gave the basket to Mary.'
Mary-obj basket-obj give-in-perf-1

[17] For AnQ, Miller [22, p.104] gives the following example, in which *-ta* is absent: *awa-y yacha-q-kuna-wan* (weave-inf know-sub-plur-with) 'those who know how to weave'. This may show that verbs can assign θ-roles directly in some circumstances, at least in some dialects. On the other hand, it may be a compound [[awa-y] [yacha-q]]-kuna-wan.(?)

[18] Emonds [13, p.35, footnote 17] writes: "I have not found any clear reason when V is intransitive between V assigning a θ-role directly to a PP or indirectly to the phrase immediately dominated by PP. We might say that an obligatory intransitive verb can assign a θ-role directly only to PP, since direct θ-role assignment applies to at most one sister of V."

Marya, the indirect object—understood as the terminus of some motion, is assigned its θ-role directly by the preposition. *shikra*, the direct object, is assigned its θ-role indirectly by the verb. (Both are assigned Case by their prepositions.)

Thus the θ-role is assigned to an argument for which the verb is not inflected, and Agr-O does not receive a θ-role from the verb. This is true in several cases. Many Quechua dialects show synchronic and/or diachronic evidence for the movement of *-shu* '2obj' from a transitive verb to the auxiliary verb *ka-* 'be':

(12) d-structure: maqa-shu -shqa ka -n 'He had hit you.'
s-structure: maqa-t_j -shqa ka-shu_i -nki

ka- 'be' is an intransitive verb so it has no θ-role to assign *-shu*. Therefore, *-shu* '2obj' cannot be generated as an argument of *ka-*. *-shu* gets its θ-role from the lower, transitive verb, so it must have been generated there and moved to the auxiliary. This is rather compelling evidence that Agr-O may move from a complement to the verb that selects the complement.

Another case where Agr-O does not get a θ-role involves the "clitic climbing" discussed in 7.1. In 96b and c, *muna-* 'want' does not assign a θ-role to *-ma:* '1obj'. *-ma* gets its θ-role by being coindexed with a position in the infinitive object complement.

Another case where Agr-O does not get a θ-role involves movements out of sensory verb complements. For example, in 9b *-shu* appears in the main verb but gets its θ-role from the verb of the complement.

Baker [1, p.310] writes:

> ...one can follow Levin and Massam (1984) and claim that the VP always assigns the theta role to the Infl node first. Then, if this node contains an argument, nothing further will happen; if it does not, it will transmit the theta role on to an argument in the subject position proper, possibly by way of the subject-Infl agreement relation.

This is an attractive possibility for Quechua. We might even be tempted to extend it to direct objects; that is, we might argue that the θ-role is assigned to the Agr-O and secondarily transmitted to the overt object NP, if present. However, this would not be correct because in various cases Agr-O is not coindexed with the argument to which the verb assigns a θ-role. Let us consider one case (from Weber [38, p.21]) :

(13) Tayta-yki qam-ta qo- {a. -ma (1obj) / b. -ø (3obj)} -ra-n
father-2p you-obj give -past-3

'Your father gave you to {a. me / b. him}.'

I believe *qu-* 'give' assigns a single θ-role to the direct object, the indirect object getting its θ-role from the preposition *-ta*.[19] However, as 13 shows, Agr-O reflects the

[19] I assume that HgQ is not a true double accusative language, that *qu-* 'give' is not really a "dative-shift triadic verb."

person of the *indirect* rather than the *direct* object. Several analyses proposed below depend crucially on disassociating Agr-O and θ-role assignment.

ka- 'be' is also exceptional in *directly* assigning a θ-role to the complement; see Emonds [13, section 6.3].

2.6 The relation of morphology and syntax

The lexicalist hypothesis claims that syntax does not have access to the internal structure of words. Baker [1, p.431] (referring to Di Sciullo and Williams [12]) summarizes it as follows: "...words are completely atomic units with respect to the syntax and cannot be affected by transformations." This means that the terminal nodes of a syntactic tree are *words*, ...not *morphemes*. This imposes an extreme and—in the opinion of many—untenable restriction on how morphology and syntax are related.

A weaker form of the lexicalist hypothesis allows inflectional—but not derivational—morphology to interact with the syntax. However, even this disallows structures that seem justified in Quechua, along the lines of Weber [37], which attempted an integrated morpho-syntax, and Weber [39], which catalogued diverse Quechua data inconsistent with the lexicalist hypothesis.

To maintain the lexicalist hypothesis, Muysken [25] develops a "theory of morphological control" whereby features of a word can be passed to abstract positions outside the word. This allows positing syntactic structures believed to be universal but for which Quechua provides little or no concrete evidence. This theory is assumed in Lefebvre and Muysken [21] for both COMP and CASE. I do not assume it here.

How does syntax interact with morphology? I assume that morphological features percolate—*whether the process that built the higher structure was morphological or syntactic.* For example, if a prepositional phrase is adjoined to a univalent verb the whole expression is univalent: $[_{V[-bivalent]}\ P^{max}\ V[-bivalent]]$.[20] Likewise, syntactic features may percolate to a higher structure built by a morphological process. For example, some adverb-like suffixes attach to verbs without changing any syntactic property of the verb.

Di Sciullo and Williams [12] reject the "one grand science of the word/phrase." However this is pretty much the position I take, that there is a single set of morphological and syntactic rules which can be intermixed.[21] I assume a single, connected morpho-syntactic phrase marker, but neither the morphological nor the syntactic part need be connected independent of the other. This is the null hypothesis, sim-

[20]This is akin to an assumption made by Di Sciullo and Williams [12].

[21]I do not mean to suggest that they can be intermixed randomly. There may be certain equivalence constraints relating syntactic and morphological categories. For example, $X^{max} \Rightarrow$ [+complete], i.e., all maximal projections are morphologically complete. $V^0 \Rightarrow$ [−complete], i.e., the lexicon only contains incomplete verbs (which may be further specified as [−bivalent] (intransitive) or [+bivalent] (transitive)). The only exception I know of is *kuyra:* 'be careful lest' (from Spanish *cuidado*).

pler than positing one (or more!) morphological components, which amount to very strong stipulations.[22]

3 Verbal inflection

For many years, only highly configurational clause structures were admitted, with the structure [$_S$ NP [$_{VP}$ V NP]] or some permutation thereof. Hale [18] brought to the generative framework the notion of "non-configurationality," i.e., some languages have flat phrase structures, not the hierarchical structures posited for English. Chomsky [6, p.3] admitted the following possible structures (among others):

a. [$_{V''}$ NP [$_{V'}$ V NP]]
b. [$_{V''}$ NP V NP]
c. [$_{C''}$[$_{C'}$[C [$_{I''}$ NP [$_{I'}$ Infl [$_{VP}$ V...]]]]]]

Under current thinking—in which move-α applies to any category, perhaps subject to parameterization—greater integration of morphology and syntax is possible. For example, following work by Emonds, Pollock [29] argues for a structure like 14a. In English, inflection lowers to adjoin to the verb as in 14b:

(14) a. [$_{IP}$[$_{NP}$ John] [$_{I'}$[$_{I}$ Pres] [$_{VP}$[$_{Adv}$ often] [$_{VP}$[$_{V}$ kiss] [$_{NP}$ Mary]]]]]
b. [$_{VP}$[$_{V}$[$_{V}$ kiss] [$_{I}$ Pres]] [$_{NP}$ Mary]]

However, in French the verb raises to join the inflection, as shown in 15:

(15) a. [$_{IP}$[$_{NP}$ Jean] [$_{I'}$[$_{I}$ Pres] [$_{VP}$[$_{Adv}$ souvant] [$_{VP}$[$_{V}$ embrasse] [$_{NP}$ Marie]]]]]
b. [$_{I'}$[$_{I}$[$_{V}$ embrasse] [$_{I}$ Pres]]]

Refining Pollock's proposal, Chomsky [7] proposes the structure in Figure 2. For HgQ, the agreement position for the object, Agr-O, is particularly noteworthy. HgQ verbs have both subject and object agreement marking, with intervening tense/taxis; see 16 and the examples of 17:

(16) verb root ...object- $\left\{\begin{matrix}\text{tense}\\\text{taxis}\end{matrix}\right\}$ -subject ...

(17) rika- -ma -ra -n (see-1obj-past-3) 'he saw me'
rika- -ma: -na -n -paq (see-1obj-sub-3p-pur) 'for him to see me'
rika- -ma -sha -n -ta (see-1obj-sub-3p-acc) 'that he see me'
rika- -ma -pti -n (see-1obj-adv-3p) 'if he sees me'

Omitting neg and ADV for the present, and putting the heads in final position, we have a structure as in Figure 3a. Figure 3a strikes me as a reasonable s-structure,

[22] Another way to interpret my proposal is that the boundary between morphology and syntax traditionally assumed for Quechua has just been misplaced, and that much of what was traditionally treated as morphology is really syntax, and that thus it is fitting that the corresponding rules mix with the rest of the syntax.

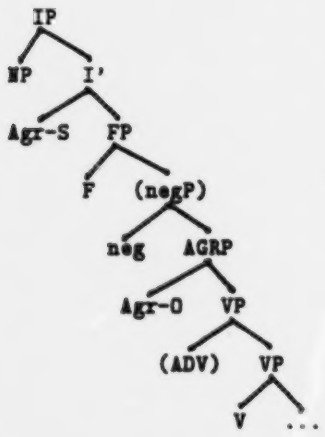

Figure 2: Chomsky's 1989 proposal for clause structure

but if one were concerned to satisfy the lexicalist hypothesis (e.g., to get all and only the verb's morphemes under a single node) one could argue for successive movements of the verb (with adjunction) up to Agr-S, to arrive at the structure in Figure 3b. (Chomsky suggests this, but I am not sure that these adjunctions would be permitted.) Note that the resulting verb in 3b has the left-branching structure first suggested by Parker [28, p.51] and elaborated in Weber [37, 41], Muysken [26] and Lefebvre and Muysken [21, chap.3].

I will make the following simplifying assumptions and modifications to Chomsky's proposal (in Figure 2):

1. ADV appears only as an adjunct to the VP. In addition to this possibility, I will also allow ADV adjoined to AGRP or IP. Here, ADV could be of various kinds:

   a lexical adverb: Most of these are derived from substantives by *-pa*:

   (18) Shamu-shka-: come-perf-1 { a. chaki (foot); b. chakay (night); c. sasa (difficult); d. rasun (real) } -pa -gen

   'I came { a. on foot (means); b. by night (time); c. with difficulty (manner); d. really (veracity) }.'

   a prepositional phrase: This could be either [$_{PP}$ NP P] or [$_{PP}$ S[+nominal] P].

   an adverbial clause: These are S[−nominal], the feature [−nominal] morphologically percolating from *-pti*, *-r*, *-shpa* or *-sha* in F.

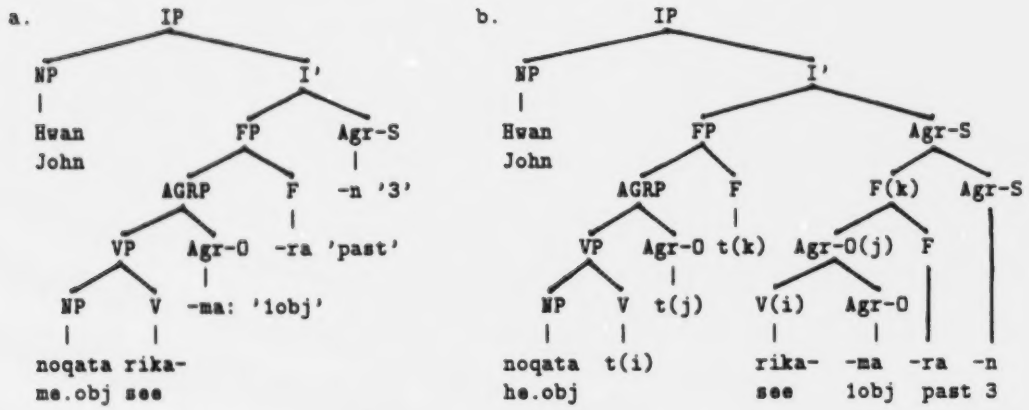

Figure 3: The d-structure and s-structure of a simple finite clause

neg: By assuming that *neg* is an adverb, I do not need to specifically include it as in Figure 2.[23]

2. In Figure 2, FP is obligatory. I will treat it as optional, absent when the subordinator is *-q*, *-r*, or *-y*. (Alternatively, these could be regarded as portmanteaus of F and I.) Also, I have made the subject and object NP's optional; I propose that they are absent rather than PRO or pro.

3. In Figure 2 the subject NP dominates Agr-S whereas Agr-O dominates the object NP. If c-command is defined in terms of maximal projections, the subject NP and Agr-S mutually c-command each other. However, assuming that VP is a maximal projection, Agr-O c-commands the NP object—but not conversely. I am not convinced that this asymmetry is a virtue.[24]

   Van Riemsdijk and Williams [34, p.275] write:

   > ...there is a sense in which AGR_i is just as much the subject of S as NP_i. Going a little further, suppose that AGR_i, when present, is

[23] Baker [2, p.390] makes the same move; he says, "*Not* is a preverbal adverb."

[24] It has the advantage that the verb—not the Agr-O—governs the object NP. Baker [1, p.313] writes:

> The passive affix must receive a theta role because it is a full-fledged nominal argument and therefore subject to the Theta Criterion. It must receive an EXTERNAL theta role, because it is generated under the Infl node and therefore outside the maximal projection of the V. Theta theory requires that the external theta role and only the external theta role of a given item can be assigned to such a position.

considered the most *prominent part* of the "discontinuous subject" consisting of NP_i and AGR_i.

I believe this is also true of Agr-O with respect to the object NP, i.e., they are part of a "discontinuous object", the most prominent part of which is Agr-O.

4. To simplify notation, I will represent the subject NP as a sister to Agr-S, and the object NP as a sister to Agr-O, thereby making both Agrs and their corresponding overt NPs mutually c-commanding. I withhold judgment as to whether there is any substantive advantage to this move. I assume that co-indexing the Agr and corresponding NP does not provoke a binding violation, irrespective of the status of Agr as an anaphor, pronominal or referring expression.

5. Object noun phrases are treated as prepositional phrases headed by (the preposition) *-ta* 'obj'. As discussed in section 2, the NP gets Case from the preposition and its θ-role indirectly from the verb.

Taken together, these proposals give the structure of Figure 4a, exemplified in 4b. It

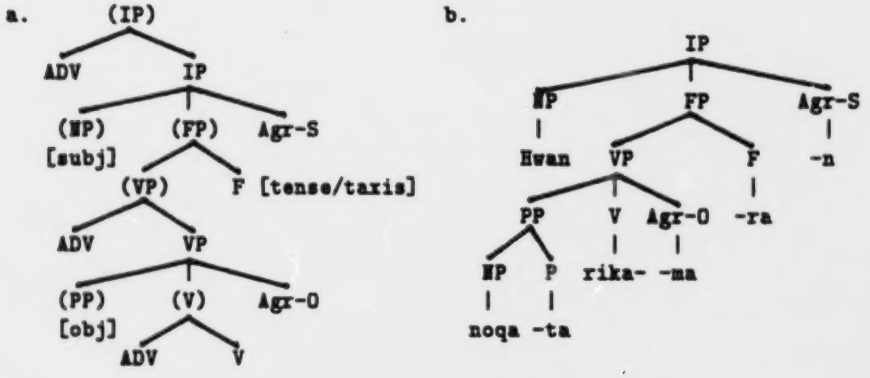

Figure 4: Revised Structure

bears mentioning that these proposed modifications are simplifications: It is simpler (more parsimonious) to assume a general adjunction of adverbs than to stipulate that they occur in a particular position, to assume that NEG is an adverb than to posit a special category for it, to have the parts of the discontinuous subject and object be sisters rather than relate them by some other mechanism, to consider the case-marking suffixes as prepositions than as simply inflectional suffixes.

Now let us consider the nature of the Quechua agreement suffixes. Van Riemsdijk and Williams write [34, p.302]:

> We could say, then, that AGR_i acts as a proper governor when rich. Since the choice between rich and poor is made not at the level of each structure

> but at the level of the grammar of the language, we must identify some formal characteristic of "rich" vs. "poor." One possibility is to say that Agr may or may not have categorial features. Since Agr has the typical nominal features for gender, number, and person, it has been suggested that Agr actually is a noun (i.e., [+N,−V]) when rich.

I propose that the following suffixes are "rich" in Van Riemsdijk and Williams' sense: OBJECT MARKERS:[25] *-ma:* '1obj', *-shu* '2obj', *-ø* 'unspecified object', *-kU* 'reflexive', *-nakU* 'reciprocal'; PERSON MARKERS: both possessive and verbal; see Table 1, page 103; ANAPHORIC SUBORDINATORS: *-q* 'sub', *-r* 'advds' and *-y* 'inf'; PORTMANTEAUS OF F AND AGR-S: *-nqa* '3fut', *-sha* '3perf'; PARTICIPIALIZERS: *-sha* 'participle', *-:ni* 'without having' (Weber [42, p.287, 366]).

Our primary argument for the nominal status of these suffixes is the many explanatory advantages that follow from submitting them to the binding theory. I will now discuss one case, that of verbal inflection; other cases will be discussed below.

3.1 The subject marking anomaly

Verbal inflection generally follows the pattern in 16, as illustrated in 17. But consider the SUBJECT MARKING ANOMALY:[26] "If the object involves a second person (i.e., it is second person or it is first person plural inclusive) and the subject is third person, then the "subject" marker reflects the person of the object rather than the subject"; Weber [37, p.20] and [42, p.97]. For example:

(19) object ... subject

a.	-shu-	-nki	'3 subject, 2 object'
	2	2	
b.	-ma:-	-nchi:	'3 subject, 12 object'
	1	12	

An explanation for this pattern is available if we recognize that the suffixes involved are pronouns subject to the binding theory. If we take *-nki* '2' and *-shu* '2obj' at face value in 19a, then the pronoun *-shu* is coindexed with *-nki* (both being second person) so the pronoun *-shu* is bound in its governing category (*-nki* being the closest accessible subject). This violates Principle B, so is not possible:[27]

*[$_S$[$_{FP}$[$_{VP}$ ... [$_{Agr\text{-}O}$ -shu$_2$]] [$_F$ ø]] [$_{Agr\text{-}S}$ -nki$_2$]]

[25] An argument for the nominal status of the object markers is that they can be moved; see section 7.1.

[26] Milliken [23] correctly objects to calling this an anomaly. She attempts a functional explanation for this phenomenon, invoking an empathy hierarchy. I do not find her analysis convincing; it only works for *some* tenses in *some* dialects. More evidence for it exists in Southern dialects than for Central ones.

[27] I will sometimes use *1*, *2* and *12* for indices that are first person, second person, or first person plural inclusive. For third persons, or when person is not an issue, I use *i*, *j*, *k*, etc.

This impossibility forces *-nki* to be interpreted differently. Suppose (as has often been suggested since Yokoyama [44] first treated *-nki* as two morphemes) that *-nki* can be taken as *-n* '3' followed by *-ki* '2'. *-n* '3' is not coindexed with *-shu* '2obj' because of the difference in person, so there is no binding violation. But *-ki* '2' may now be coindexed with *-shu* because it is outside of *-shu*'s governing category, *-n* being an accessible subject. Indeed, assuming that *-ki* must get a θ-role, it must be coindexed with either the Agr-S or the Agr-O.[28]

$[_S[_{FP}[_{VP} \cdots [_{Agr\text{-}O}$ -shu$_2$]] $[_F \emptyset]]$ $[_{Agr\text{-}S}$ -n$_3$]] -ki$_2$

Now consider 19b. As with *-nki*, I assume that *-nchi:* can be taken either as a single morpheme meaning '12' or as two morphemes, *-n* '3' and *-chi:* '12'. Since *-ma:* is a pronoun, to take *-nchi:* as a single morpheme in 19b would provoke a Principle B violation:[29]

$^*[_S[_{FP}[_{VP} \cdots [_{Agr\text{-}O}$ -ma:$_1$]] $[_F \emptyset]]$ $[_{Agr\text{-}S}$ -nchi:$_{(1,2)}$]]

This forces the bi-morphemic analysis:

$[_S[_S[_{FP}[_{VP} \cdots [_{Agr\text{-}O}$ -ma:$_1$]] $[_F \emptyset]]$ $[_{Agr\text{-}S}$ -n$_3$]] -chi:$_{(1,2)}$]

As before, *-ma:* is not bound in its governing category, because *-n* '3' is the accessible subject. This accounts for two facts: (i) The subject is interpreted as third person, since *-n* occupies Agr-S. (ii) The object is interpreted as first person *plural inclusive*, since *-ma:* '1obj' in Agr-O is coindexed with *-chi:* '12'.

This is a wonderful analysis, but unfortunately it fails for many cases outside of the present tense, for example, in the simple past tense *rika-shu-ra-yki* (hit-2obj-pst-2) 'he hit you', substantivizations like *rika-shu-sha-yki* (hit-2obj-sub-2poss) 'that hit

[28] An implementation detail with which I have not been concerned is the structural position of person markers following Agr-S. For the moment I assume (without much conviction) that *-ki* is simply adjoined to IP.

Quite remarkably, nominal inflection shows a parallel to multiple person markers: Nouns may be "doubly possessed," as in the following examples (from Weber [36, section 2.2.1]):

> Cristobal-pa ka:rru-n-ni:
> Christof-gen car-3p-1p
> 'my-Christof's car' (Christof's car, which is mine because Christof is my son)
>
> ... llachapa-n-ni:-ta-pis pasaypa rachi-r ...
> clothes-1p-3p-obj-even terribly rip-advss
> '...terribly ripping my-his clothes' (his clothes, which are mine because he is my son)

Again, without much conviction I will assume that the outer possessive simply adjoins to the (already possessed) NP.

[29] I assume that—by virtue of bearing an index for first person—*-ma:* cannot be coindexed with *-nchi:* which *contains* that index. There are alternative ways to get the same effect. Some such principle is required to explain switch-reference facts.

you', the future *rika-ma:-shun* (hit-1obj-12fut) 'he will hit us(incl.)', etc. The problem is that the forms of the morphemes do not lend themselves to a bi-morphemic analysis as they do for *-nki* and *-nchi:*.

To have our cake and eat it too, we must make our analysis less concrete, dissociating it from the actual *forms* of morphemes.[30] Instead of further segmenting morphemes (as we did for *-nki* and *-nchi:*), we recognize that morphemes may have a special property—the DUAL INTERPRETATION PROPERTY (DIP)—whereby they can be indexed in either of two ways: normally they would be indexed as '2' or '12', but wherever this binding would violate Principle B, they are indexed as a third person.[31]

The necessity of making the DIP independent of form is obvious in the case of -ø '12p'; it has no form and yet has the DIP, as shown in section 5.3. Further support is seen in how dialects differ: in most dialects the second person imperative *-y* has only a second person interpretation, so **-shu-y* (-2obj-2imp) is ill-formed and 'May he hit you!' (third person imperative) is said *rika-shu-nki* (rika-2obj-2fut). However, in Northern Huamalies *-y* '2imp' has the DIP: *rika-shu-y* (rika-2obj-2imp) 'May he hit you!'.

When *-nki* and *-nchi:* are interpreted bimorphemically, the object is interpreted as having the person that *-nki* or *-nchi:* would have had, if it had not been forced to a non-third interpretation: *-shu$_j$-n-ki$_i$* is interpreted as '3⇒2' and *-ma$_j$-n-chi:$_i$* as '3⇒12'.

Suffixes which have the DIP have this characteristic, whether or not they can be analyzed in terms of form like *-n-ki* and *-n-chi:*. That is, whenever a DIP suffix is indexed as third person, the object is indexed with the DIP suffix's other value. I refer to this as the DIP COROLLARY.

Curiously, when a DIP suffix's normal interpretation would violate Principle B, the following DIP suffix both *does* and *does not* bind the Agr-O. The third person index in Agr-S does *not* bind the Agr-O, but its other index *does* bind it—from outside its governing category. Therefore the Agr-O is interpreted as having the person of the DIP suffix's other value. This curious circumstance results because a DIP suffix may be interpreted as having two indices, a third person in Agr-S and the other coindexed with Agr-O.

This is not very extraordinary in light of other suffixes which have two indices, such as *-q* (QI) or *-yki* (QII) '1⇒2 present' and *-sh(q)yki* '1⇒2 future'. One way to analyze these is simply as portmanteaus of Agr-O, F and Agr-S. However a more elegant analysis is possible if we allow an -ø 'unspecified' in Agr-O, as we will now see.

[30] I believe it is no accident that the DIP can be analyzed strictly in terms of form in the present tense. This enables children to learn it based on concrete evidence before they must extend it as an abstract property to other morphemes.

[31] Another way to implement the DIP would be to claim that a null third person suffix occupies Agr-S, allowing the DIP suffix to be coindexed with the object. Such an analysis works for some but not all cases.

-ø in Agr-O has often been analyzed as a *third* person object marker.[32] However, it is not inherently third person because it is sometimes coindexed with overt 1, 2 or 12 object NP's. This is most obvious in a range of Central dialects where *rika-ø-:* (see-ø-1) can mean either 'I see him' or 'I see you'. It is less obvious in cases like *qam$_i$ta pa:ga-ø$_j$-pa:-ø$_k$-shaq* 'I will pay you$_j$ for him$_k$.' -ø 'unspecified object' is pronominal, resisting binding Agr-S.[33]

Given -ø 'unspecified' in Agr-O, we can analyze *-yki* '1⇒2 present' and *-sh(q)yki* '1⇒2 future' as follows:

- In *-yki* '1⇒2', *-y* is indexed '1'. Because -ø is a pronoun, it is not bound by *-y*. Rather, it is bound by *-ki*: -ø$_j$-y$_1$-ki$_{j=2}$.
- *-sh(q)ayki* '1⇒2future' works the same way as *-yki* '1⇒2': -ø$_j$-sh(q)a-y$_1$-ki$_{j=2}$. An advantage of this analysis is that *-sh(q)a* is in the position a tense marker would normally have.

(Following this analysis, we might analyze *-q* '1⇒2fut' as having two indices -q$_{i,j}$, one first person and the other second. The second person index would bind the null pronoun in the position of object: -ø$_j$q$_{i,j}$.)

3.2 Reflexives and reciprocals

-kU 'reflexive' and *-naku* 'reciprocal' are anaphors, bound by the Agr-S of their clause:

(20) maqa- hit { a. -ku$_j$ (refl) / b. -naku$_j$ (recip) } -n$_j$ -3 { a. 'he hits himself' / b. 'they hit each other' }

-nki, *-nchi:* or some other DIP suffix in Agr-S following *-kU* 'reflexive' or *-naku* 'reciprocal' never violates Principle B because *-kU* and *-naku* are anaphors. Therefore the DIP suffixes never have anything but their non-third interpretation following *-kU* and *-naku*.

3.3 Concluding remarks on inflection

The important point of this section is that the agreement suffixes are nominals and, as such, are subject to the binding theory. Principle B provides the essential ingredient for an explanation of what otherwise seems "anomalous".

[32] This is in paradigmatic contrast to *-ma:* or *-wa* '*first* person object' and *-shu* '*second* person object'.

[33] Other cases requiring -ø 'unspecified' in Agr-O are as follows:

- In AnQ *yachatsiqniki* 'in order to teach you', -ø is bound by *-niki* '2p' as follows: *yacha-tsi-ø$_j$-q-niki$_{j=2}$*. (As argued below, *-q* is an anaphor but resists binding by an immediately following possessive suffix.)
- CzQ *llamiqnin warmi* "the woman that touched him" (Luke 7:39) would be analyzed as *llami-ø$_j$-q$_k$-nin$_j$ warmi$_k$*.

4 The structure of complement clauses

Is there a COMP node, to which subordinate clauses are sisters? It is entertaining to posit a COMP node much like that posited for English. We might analyze 21a as in 21b:

(21) a. Maqa-ma-sha-n-ta musya-nki. 'You know that he hit me.'
hit-1obj-nom-3-obj know-nki
b. [$_S$[$_{NP}$ pro] [$_{VP}$[$_{S'}$[$_S$ maqa-ma-sha-n-ta] COMP] [$_V$ musya-nki]]]

This is essentially Lefebvre and Muysken's [21] analysis for CzQ, in which COMP is usually abstract (having physical realization only when filled by *chay-qa*); Muysken's [25] theory of morphological control communicates inflectional features between the subordinate verb and the COMP. For CzQ there are some cases that might be lexical complementizers, but for HgQ, COMP would be a purely abstract entity, i.e., it would never have physical realization. For this reason—and because I believe a better analysis is available for HgQ—I do not adopt Lefebvre and Muysken's analysis.

4.1 The COMP found: case markers

Emonds [13, p.281] argues that "... *all* subordinate clause S's are deep structure sisters to V or to P." This involves recognizing that a COMP is really a P and an S' is really a P': all instances of [$_{S'}$ COMP S] are really instances of [$_{P'}$ P S]. For a head final language, then, all [$_{S'}$ S COMP] are instances of [$_{P'}$ S P]. For Quechua, an S which is a sister of a P must be [+nominal], so case-marked, substantivized clauses are instances of 22, a case of rule 2:

(22) [$_{S'}$ S[+nominal] P]

How do we justify treating the case markers as complementizers, that is, as prepositions?

First, the case markers show a certain amount of independence. To take one example, in relative clauses, when the "embedded coreferent" (Weber [38]) is gapped, in rare instances the accompanying case marker is retained and "floats" to the case marker of the noun phrase containing the relative clause (which c-commands the position from which the case marker floats).[34] For example, from the d-structure in 23a, *-wan* moves, resulting in the s-structure in 23b: [35]

(23) a. [[e-wan yaku-man yayku-sha-n] ro:pa] chakikuyka-n
b. [[t_k yaku-man yayku-sha-n] ro:pa]-wan$_k$ chakikuyka-n
water-goal enter-rel-3 clothes-with be drying-3
'The clothes with which he entered the water are drying.'

[34] Is case floating a case of COMP incorporation?

[35] In this case it would be possible to analyze *ro:pa-wan* as having been moved into the position of the head: [$_S$[$_{NP}$[$_{S,NP}$] e yaku-man yayku-sha-n] [$_{NP}$ ro:pa-wan]] [$_{VP}$ chakikuyka-n]]. However, this is not possible for all examples.

Consider another case (Weber [42, p.228]). *-wan* floats from within the purpose clause, to the end of it; see Figure 5:

(24) Qellay-ta-pis apa-nki mas achka-ta ranti-mu-na-yki-paq-[-wan].
money-obj-indef take-2 more much-obj buy-afar-sub-2p-pur-with
'Take money with which to buy more (food).'

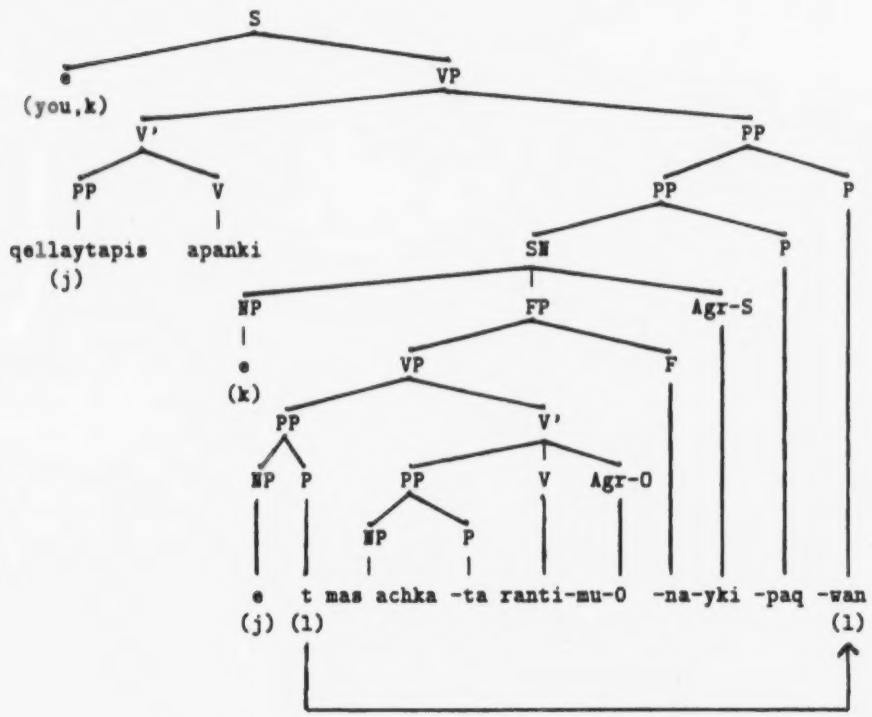

Figure 5: Take money with which to buy more (food).

A second reason for considering case markers as complementizers is that P acts like an "escape hatch" for certain movements (reminiscent of the behavior of COMP in some languages): "Any constituent moved outside of the scope[36] of a case marker must be marked with (such) a case marker." Weber [38, p.54].

Lefebvre and Muysken argue that case floating is movement through a "COMP-like CASE position" (where CASE is usually an abstract position). Their insight—that CASE has COMP-like behavior as an escape hatch—is more straight-forwardly implemented on Emonds' view that COMP's *really are* P's. Indeed, if complementizers *are* prepositions, it is not surprising that some P's demonstrate COMP-like

[36] I use "scope" to refer to the c-command domain of P, that is the NP that is the sister of P.

behaviors. We can dispense with the abstract COMP and CASE, as well as the theory of morphological control (whereby features are passed to the abstract positions). And rather than having the "scope" of CASE depend on percolation,[37] we simply have "the c-command domain of the P."

Let us consider various cases of movement from a noun phrase, starting with the movement of a simple modifier. From its d-structure in Figure 6a, *hatun* escapes the lower phrase through the postposition, yielding the s-structure (simplified) in Figure 6b:[38]

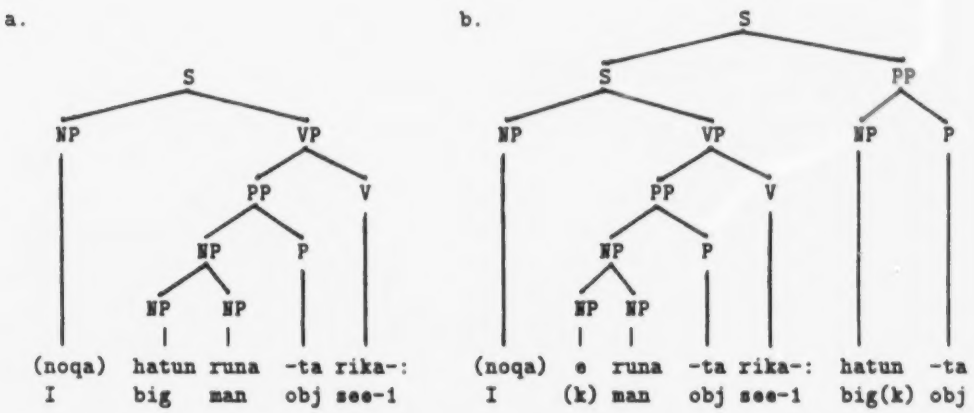

Figure 6: I see the big man.

Now let us consider a case where, by multiple movements through two P's, a substantive gets two case markers. First, the d-structure:

(25) [$_S$ noqa [$_{VP}$[$_{PP}$[$_{NP}$[$_{PP}$[$_{N'}$[$_{NP}$ hatun] runa] [$_{PP}$ -pa]] [$_{NP}$ wasi-n]] [$_{PP}$ -ta]] [$_V$ rika-:]]]
I big man gen house-3p obj see-1
'I see the big man's house.'

hatun first escapes the lowest PP, passing through [P *-pa*]. Then it escapes the higher NP, passing through [P *-ta*]:

(26) [$_S$[$_S$ noqa [$_{VP}$[$_{PP}$[$_{NP}$[$_{PP}$[$_{N'}$[$_{NP}$ t_k] runa] [$_{PP}$ -pa]] [$_{NP}$ wasi -n]] [$_{PP}$ -ta]] [$_V$ rika-:]]]
I man gen house -3p obj see-1

[$_{PP}$ hatun-pa-ta]$_k$] 'I see the man's house, the big one.'
big-gen-obj

[37] When an NP bears *-ta*, *-man* or another case other than *-qpa* 'genitive', Lefebvre and Muysken [21, p.111] treat it as part of the word; its case features percolate to the maximal projection, from which position "the case marker has scope over the whole noun phrase". *-qpa* 'genitive' may occupy CASE, thus "c-commands all the material in the NP, and thus again has scope over the whole NP."

[38] I am assuming that the moved NP adjoins to the sentence node. We could just as well adjoin it to the VP in these examples.

The same phenomenon appears in movements out of a sensory verb complement. Assume that the arguments of a sensory verb complement are generated internal to the complement and that move-α accounts for the cases in which an argument occurs in the higher clause.[39] When the subject moves, it acquires a copy of *-ta*, the COMP through which it passes:

(27) a. Hwan rikaran [$_{PP}$[$_{SN}$ Tumas wamra-n-ta maqaykaq] -ta]
b. Hwan Tumas$_k$-ta rikaran [$_{PP}$[$_{SN}$ t_k wamra-n-ta maqaykaq] -ta]
John Tom-obj saw son-3p-obj hitting -obj
'John saw Tom$_k$ hitting his$_k$ son.'

Likewise, when *wamra-n*, the object of the complement, is moved out as in 28, it gets *-ta*:

(28) Hwan [wamra-n]$_j$ -ta rikaran [$_{PP}$[$_{SN}$ Tumas t_j maqaykaq] -ta]
John [son-3p] -obj saw Tom hitting -obj
'John$_j$ saw Tom hitting his$_j$ son.'

If the entire PP *wamra-n-ta* were moved, we should get multiple *-ta*'s on *wamra-n*, one being the original object marker, the other a copy of the COMP through which it moves. However, I assume that only the NP *wamra-n* moves; the stranded P simply atrophies. This gives another argument that *wamra-n-ta* should be analyzed as [$_{PP}$ [$_{NP}$ *wamra-n*][$_{P}$ *-ta*]]: if *wamra-n-ta* were a single word we would not expect the independence of the NP that follows from the prepositional status of *-ta*.

4.2 Object complements

muna- 'want' takes two types of object complement, illustrated in 29 and 30:

(29) Hwan Marya noqa-ta mucha-ma:-na-n-ta muna-ra-n 'John wanted Mary to kiss me.'
John Mary me-obj kiss-1obj-sub-3p-obj want-pst-3

(30) Hwan noqa-ta mucha-ma:-y-ta muna-ra-n. 'John wanted to kiss me.'
John me-obj kiss-1obj-inf-obj want-pst-3

The phrase markers of 29 and 30 are diagrammed in Figure 7. In 29, *muna-* 'want' selects complements substantivized with *-na*-POSS-*ta*. Consequently, *-ta* is not a barrier for *-n* '3p' and *-n*'s governing category is the main clause. Since *-n* is pronominal, it cannot be bound in this domain. Therefore it cannot be coreferential to the (c-commanding) subject of the main clause; indeed, the subjects of such complements never co-refer to the subject of the superordinate clause.

Likewise, in 30 the complement is selected by *muna-*, so *-ta* is not a barrier between *-y* 'inf' and the main clause. Since *-y* is anaphoric, it is bound by the subject of the higher clause. This accounts for the same-subject behavior of infinitive object complements.

We can now understand some interesting cases, like the contrast illustrated in 31:

[39] I question this assumption in section 8.4.

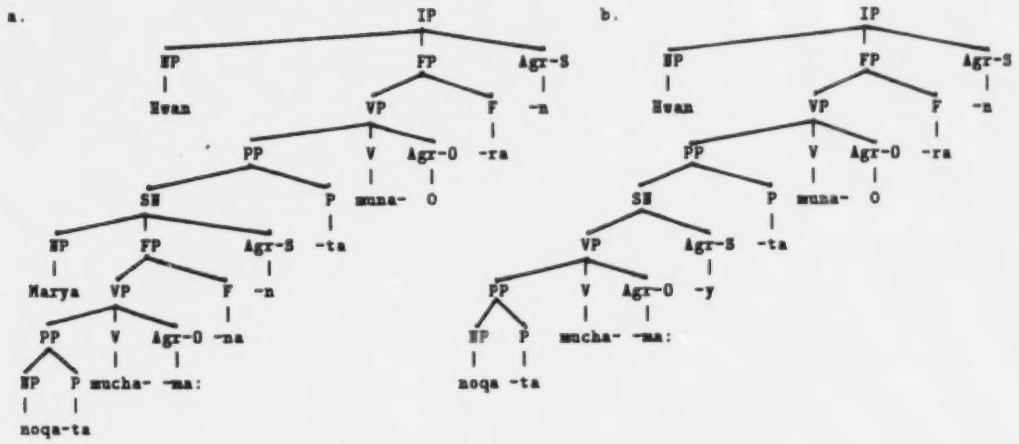

Figure 7: Object complements

(31) yanuku-na-n {a. -ta (obj) / b. -paq (pur)} muna-n
cook-sub-3p want-3

'He$_j$ wants {a. him$_{i\neq j}$ to cook it / b. it so that he$_{i/j}$ can cook it}.'

In 31a, *-n* '3p' may not be coindexed with the subject of the higher clause, whereas in 31b it may. How can we explain the difference? In 31a the complement is selected by the verb, so [$_S$ S [$_C$ -ta]] is not a barrier between the Agr-S of the subordinate and main clauses, so the pronoun *-n* '3p' may not be bound by the subject of the main clause. By contrast, in 31b the subordinate clause is *not* selected by the verb. Rather, it is simply adjoined to the VP. Consequently [$_S$ S [$_C$-paq]] *is* a barrier between the Agr-S of the subordinate and main clauses. This allows the pronoun *-n* '3p' to be coindexed with the subject of the higher clause (as this does not constitute binding within the restricted locality).

Now consider 32. The possessive suffix following *-sh(q)a* may or may not be coindexed with the subject of the higher clause:

(32) Hwan$_j$ musya-n$_j$ qeshya-yka-sha-n$_j$-ta. 'John$_j$ knows that he$_{j/k}$ is sick.'
John know-3 sick-impf-sub-3p-obj

I believe that this is because verbs like *musya-* 'know (a fact)' do not select a clausal object, even though a substantive clause (subordinated with *-sh(q)a* or *-na*) may occur as the direct object. Since *musya-* does not select the complement, *-ta* is a barrier, so coindexing the pronominal possessive suffix with the higher subject is possible but not required. This also explains some other facts about *musya-*:

1. The complement is not obligatory; one can simply say *mana-mi musya-:-chu* 'I don't know.'

2. *musya-* does not allow raising out of the complement: **Juan-ta musya-: wamra-n-ta maqa-sha-n-ta* 'I know that John hit his son', **Maqa-sha-n-ta musya-ma-nki* 'You know that he hit me'.

3. *musya-* may not take an object complement with *-y* 'inf' or *-q* 'sub':

(33) *aywa- {-y (inf) / -q (sub)} -ta musyan
go obj he knows

-y 'inf' and *-q* 'sub', which are anaphors, are separated by a barrier from any possible binder.

5 Possessives

There are two sets of person marking suffixes, the verbal person markers and the possessives (−verbal); see 1. One justification for distinguishing [+verbal] and [−verbal]

	+verbal	−verbal
1	-:	-: ~ -ni:
2	-nki	-ki ~ -niki ~ -yki
3	-n	-n ~ -nin
12	-nchi:	-nchi: ~ -ninchi:

Table 1: Person markers

sets is that, following an underlying long vowel, the [+verbal] suffixes "foreshorten" (i.e., they suppress the length of the preceding vowel) whereas the [−verbal] suffixes have allomorphs with *-ni*; see Weber [42, p.465]. This is morphophonemic evidence for the distinction.

Another justification for the distinction—a distributional one—is that the [+verbal] suffixes fill the Agr-S of finite clauses (34d), while the [−verbal] suffixes fill the Agr-S of adverbial clauses (34c), substantival clauses (34b) and the Agr-P of possessed noun phrases (34a). Since these are all [−nominal], the feature system nicely captures this distribution.

(34) a. qam-pa wasi -ki 'your house' [−verbal] in Agr-P[40]
b. qam rika-sha -yki 'that you saw' [−verbal] in Agr-S in SN
c. qam rika-pti -ki 'if you see' [−verbal] in Agr-S in SA
d. qam rika- -nki 'you see' [+verbal] in Agr-S in S

I represent the category of the possessive suffix in a possessed NP as Agr-P. Let us now consider the question, To what extent is Agr-P like Agr-S?[41]

[41] It seems possible to assimilate Agr-P to Agr-S much more in CzQ than in HgQ; see Lefebvre and Muysken [21].

1. I assume that a possessed noun phrase is not headed by the Agr-P but by the noun (phrase) being possessed. (This is unlike the case for sentences, which I assume to be headed by Agr-S.)

2. A possessed noun (e.g., *wasi-ki*) may occur with an overt possessor. The possessor occupies the NP's specifier position, while modifiers are adjoined to N^1:[42]

   $[_{N''}[_{PP}[_{N''}$ qam] $[_{P'}$ -pa]] $[_{N'}[_{N''}$ hatun] $[_{N'}[_{N}$ wasi]]] $[_{Agr\text{-}P}$ -ki]]

3. The possessor agrees in person with the possessive suffix;[43] I assume this agreement is implemented by whatever mechanism coindexes subject NP's with Agr-S.

4. The possessor is a prepositional phrase.[44] It is not subject to Emonds' "subject principle" because it is not an *argument* of N external to N′.

5. Unlike Agr-S, which assigns Case to the subject NP, Agr-P does not assign Case to the possessor NP. Case is assigned by the preposition *-pa* 'genitive'.

6. Agr-S's are pronouns ([+pronominal,−anaphoric]) whereas Agr-P are "mildly" anaphoric; see section 5.2.

The differences discussed in this section are summarized in Table 2.

	Agr-S of			Agr-P of
	S	SA	SN	NP
morphological:	+verbal	−verbal		
binding:	pronouns, i.e., [+pronominal,−anaphoric]			"mildly" anaphoric
overt argument:	$NP_{nominative}$			$PP_{genitive}$

Table 2: Person marker alignment

[42] An overt possessor may not co-occur with a determiner; e.g., **chay Hwanpa wamran* 'that John's child' or **huk Hwanpa wamran* 'one (of) John's children'. Determiners *do* occur with other modifiers; e.g., *chay hatun wasi* 'that big house'.

[43] *qam-pa wasi-ki* 'your house' but not **noqa/qam/noqanchi/pay-pa* (my/your/our) *wasi-ki* (house-2p).

[44] The non-human possessor of a spatial noun does not bear *-pa* 'genitive'; e.g., *wasi hana-n-chaw* (house top-3p-loc) 'on top of the house'. In this case the possessor is an NP and not a PP.

5.1 The person of possessed noun phrases

When most nouns are possessed the result is third person; for example, in 35, *ti:yu* possessed by any person makes a third person NP, as shown by the fact that the possessive suffix on *wasi* must be third person:

(35) ti:yu- [-: / -nchi: / -yki / -n] -pa wasi- [*-: / *-nchi: / *-nki / -n] ' [my / our / your / his] uncle's house.'

If suffixes head the expressions they form (as claimed in Weber [41]), how do we explain that *qam-pa wasi-ki* 'your house' is third—not second—person? That is, why does the second person feature of *-yki* '2p' not determine the person of the NP?

This would be the case if the NP were projected from Agr-P, parallel to S (=IP) being projected from Agr-S. However, I assume that possessed NP's are projected from the head noun, not from Agr-P. I further assume (somewhat tentatively) that the entire NP is coindexed with the head: $[_{NP}(PP_{GEN})\ [N^{a}_{k}]\text{-Agr-P}]_{k}$.

The binding properties of the noun to which a possessive suffix attaches may vary. Most nouns are R-expressions so—to remain free—resist binding by the possessive suffix. That is why *wasi-ki* (house-2p) is third person rather than second.

A few lexical nouns are anaphors; e.g., *kiki* 'self'. *kiki* is always bound by the possessive suffix that follows it, so the entire NP is coindexed with the possessive suffix. For example, *kiki-ki* 'you yourself' is second person.[45]

Although *kiki* is an anaphor, *kiki* and a following possessive suffix together form an R-expression, *not* an anaphor. Thus it may be the subject, as in 36b, because in this position it is free—as must be the case for an R-expression. However, *kikin* cannot be the object, as in 36a, because it would be bound by the subject (pro):

(36) a. *pro kiki-n-ta wañu-chi-ku-sha. 'He killed himself.'
b. Kiki-n wañu-chi-ku-sha.
self-3p self-3p-obj die-caus-ref-3perf

Likewise, both sentences in 37 are ill-formed because an R-expression is bound: *Hwan* in 37a and *kikin* in 37b:[46]

(37) a. *kiki-n Hwan-ta wañu-chi-ku-sha 'John killed himself.'
b. *Hwan kiki-n-ta wañu-chi-ku-sha

Other anaphoric nouns are *huk* 'one/another', *ishkay* 'two' (and the other lower numbers) and *waki(n)* 'some/other', *mayqa(n)* 'which'. Unlike *kiki* 'self', when each of these is possessed, it may either refer to a member of the set referred to by the

[45] Evidence for this is that it necessarily triggers second person subject agreement: *Kiki-ki aywa-nki* (2) 'You go' is fine, but neither **Kiki-ki aywa-:*(1), nor **Kiki-ki aywa-nchi*(12), nor **Kiki-ki aywa-n*(3) is grammatical.

[46] Felix Cayco's reaction "It is as though someone else killed John."

possessive suffix[47] (in which case the expression has the person of the possessive suffix) or to a member *of the complement* of that set (in which case the expression is third person). For example, ***mayqa-niki*** can mean 'which of you' (second person) or 'which one other than you' (third person):

(38) Mayqa-ni-ki-taq rura- {a. -sha (3perf) / b. -shka-nki (-perf-2)} ? 'Which of you did it?'
which-ø-2p-? do

Thus, the semantic interpretation of such expressions is not a direct translation of the indices.[48]

Noun phrases headed by anaphoric nouns may not have an overt possessor: ****qam-pa kiki-ki*** (you-gen self-2p), ****qam-pa mayqan-niki-pis*** (you-gen which-2p), etc. This can be explained in terms of binding properties. Compare the structure and coindexing with a possessed non-anaphoric (a) and anaphoric (b) noun:

(39) a. $[_{NP}$ qam$_j$-pa $[_{N^1}$ wasi$_k$ -ki$_j$ $]_k$ $]$ 'of you, your house'
b. * $[_{NP}$ qam$_j$-pa $[_{N^1}$ kiki$_j$ -ki$_j$ $]_j$ $]$ 'of you, your self'

The difference follows from two facts: (i) *qam* effectively c-commands the N^1; see footnote 50. (ii) N^1 is an R-expression (whether or not the head is anaphoric). 39a is fine because *qam-pa* is not coindexed with N^1 and therefore does not bind it. 39b is ungrammatical because *qam-pa* is coindexed with N^1 and therefore binds it, violating Principle C.

5.2 Possessive suffixes are "mildly" anaphoric

All things being equal, possessive suffixes are coindexed with the closest compatible c-commanding nominal expression (where "compatible" means there is no conflict of person). However, unlike anaphors subject to Principle A, possessive suffixes may not be bound in their governing category. For this reason I call them "mildly anaphoric". For example, consider 40:

(40) Hwan {a. -ø / b. pay-pa (he-gen)} warmi-n-ta kuya-n
John wife-3p-obj love-3

'John$_j$ loves his {a. j/k / b. *j/k} wife.'

[47] I am assuming that the semantic interpretation of person marking suffixes is in terms of sets. For example, for first person the set would be {SPEAKER}, for first person plural inclusive the set would be {SPEAKER, HEARER}, for first person plural exclusive the set would be {SPEAKER, X, Y, ...}, etc.

[48] I assume this to be a matter of semantic interpretation, not of contra-indexing, which would require us to say that the noun is either an anaphor or an R-expression. (But, by our explanation below, those that are R-expressions should allow overt possessors.)

It may be significant that the alternate interpretations possible with these nouns, i.e. either third person or the suffix's normal value, parallels the DIP; see section 3.1.

40a would normally be taken to mean that John loves his own wife—not because men normally love their wives, but because the closest possible c-commanding nominal expression is *Hwan*. 41 provides further evidence:

(41) Hwan wa:ka-n-ta suwa- {a. *-ø / b. -pa (ben)} -n 3 'John steals his cow.'
John cow-3p-obj steal

41a is not acceptable because one cannot steal one's own cow,[49] so—out of context—there is no binder for *-n* '3p'. Adding *-pa:* 'benefactive', as in 41b, makes available a possible binder, namely the object of the benefactive. Therefore 41b is grammatical.

Arg-P are always bound by their overt possessor (if any). For example, in 40b the Agr-P *-n* '3p' is bound by *pay*, which, since it is pronominal, may not be bound by the subject.[50] This presumes that the possessor's NP c-commands the possessive suffix. Recall that the configuration is $[_{NP}[_{PP}\ NP_j\ P] \ldots Agr\text{-}P_j]$. Since PP is a maximal projection, NP does not c-command Agr-P. There are various ways we might get around this:

- Elsewhere it is argued that *-pa* 'GEN' is in some ways transparent when it comes to binding processes, so it is not unreasonable to think that the PP does not block this c-command relation.

- In contrast to cases where *-pa* assigns a θ-role, we might take such cases to be simply a suffix, not a preposition. How might this be justified? First, I think that no verb subcategorizes for *-pa*-marked complements, so not taking *-pa* as a preposition does not undercut our claim that P=COMP. Second, of the case markers, *-pa* seems the most disposed to merge with other suffixes; witness *-yllapa* and *-nawpa*. Third, taking *-pa* as simply a suffix would make Case assignment more parallel between Agr-S and Agr-P, i.e., both assign Case to an NP, nominative in the case of Agr-S and genitive in the case of Agr-P. However, one argument to the contrary is my claim that *hatun* escapes from the NP in 25 through the postposition *-pa*.

I will now give a rather extended discussion based on sensory verb complements. In the complements to sensory verbs (section 2.3), the subject or the object of the complement can occur in the higher clause. (In section 8.4 I consider the possibility that move-α is responsible for these alternatives.) This, coupled with HgQ's rather free word order makes it possible to say "John saw Tom hitting his child" a couple dozen different ways. I conducted a brief study based on speakers' reactions to many alternatives, asking whether *his son* referred to *John's* son or *Tom's* son. For

[49]Insurance has made this an attractive possibility in the "modern" world, but this fact hasn't yet come to bear on *suwa-*.

[50]This raises the question, "When an overt possessor is not present (as in 40a), might the NP's specifier be filled by an empty category, one which has the "mildly" anaphoric properties ascribed to the possessive suffixes?" I do not know the answer to this question. For present purposes, I assume that when the possessor is not physically present, the specifier is empty.

some sentences there was definite consensus; for others opinions diverged; For some speakers, the answer could go either way, while for others it was hard to make any judgment. But collectively the judgments were instructive.

In 42 *wamran* clearly refers to Tom's son; the *-n* of *wamra-n* refers to *Tumas*, as indicated by the subscripted index. The structure is given in Figure 8.

(42) Hwan Tumas$_i$ wamra-n$_i$-ta maqa-yka-q -ta rika-ra-n
John Tom child-3p-obj hit-impf-sub obj see-pst-3
'John saw Tom hitting his child.'

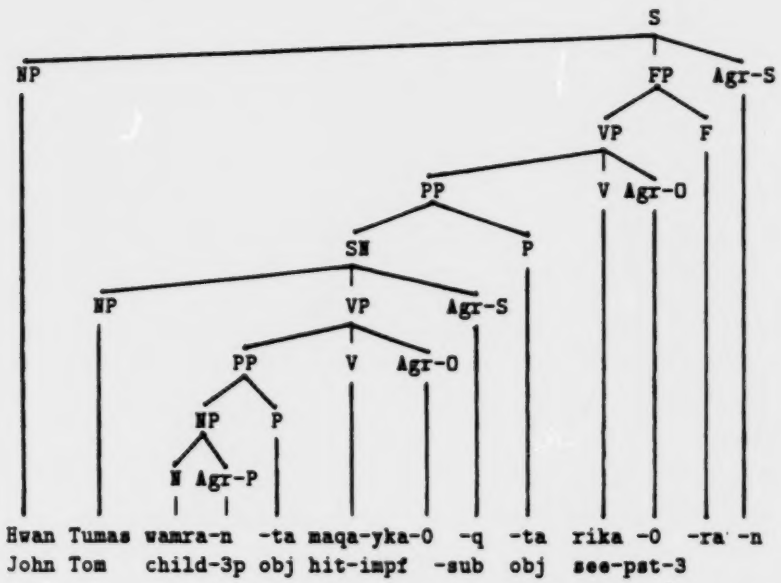

Figure 8: John saw Tom hitting his child.

Likewise, for examples 43 and 44 *-n* clearly refers to *Tumas*:

(43) Hwan rika-ra-n [Tumas$_i$ [wamra-n$_i$-ta maqa-yka-q-ta]]

(44) [Tumas$_i$ [wamra-n$_i$-ta maqa-yka-q-ta]] rika-ra-n Hwan.

But in 45, where *wamra-n* occurs in the main clause[51] it refers to John's son:

(45) Hwan$_i$ wamra-n$_i$-ta$_j$ rika-ra-n [Tumas [e$_j$ maqa-yka-q-ta]]

Based on these examples, we can formulate a tentative generalization:

[51]The *j* subscript reflects an analysis whereby *wamra-n-ta* has moved from the lower to the higher clause, receiving its θ-role by virtue of the coindexed trace in the lower clause.

(46) The *-n* of *wamra-n* preferentially refers to the subject of the clause in which it occurs.

Among the sentences I asked speakers to judge, some were structurally ambiguous. For these, the respondents split fairly evenly over whether *wamra-n* referred to John's or Tom's son, and some respondents indicated that it could be either. One such sentence is given in 47 and 48; these have the same terminal string, differing only in the structure and indices I have added:[52]

(47) Hwan$_i$ [$_{VP}$ rika-ra-n [wamra-n$_i$-ta]$_j$ [Tumas e$_j$ maqa-yka-q -ta]]

(48) Hwan [$_{VP}$ rika-ra-n [wamra-n$_i$-ta Tumas$_i$ maqa-yka-q-ta]]

Consistent with 46, in these cases the reference of the *-n* of *wamran* depends on whether *John* or *Tom* is the subject of the clause in which *wamra-n* occurs. Another example follows:

(49) a. Hwan$_i$ [wamra-n$_i$-ta]$_j$ [Tumas e$_j$ maqa-yka-q-ta] rika-ra-n
b. Hwan [wamra-n$_i$-ta Tumas$_i$ maqa-yka-q-ta] rika-ra-n

Now let us consider a different case. When *Tumas* is the direct object of the matrix clause, *wamran* refers preferentially to Tom's son:[53]

(50) Hwan [Tumas$_i$ -ta [rika-ra-n [e$_i$ [wamra-n$_i$ -ta maqa-yka-q -ta]]]]

In 50, *-n* is coindexed with the closest c-commanding NP, the empty subject of the subordinate clause, which in turn is coindexed with *Tumasta* in the higher clause. Similar examples follow:

(51) Hwan Tumas$_i$-ta [e$_i$ wamra-n$_i$-ta maqa-yka-q-ta] rika-ra-n
John Tom-obj son-3p-obj hit-impf-sub-obj see-pst-3

(52) Hwan rika-ra-n Tumas$_i$-ta [e$_i$ wamra-n$_i$-ta maqa-yka-q-ta]
John see-pst-3 Tom-obj son-3p-obj hit-impf-sub-obj

(53) Tumas$_i$-ta rika-ra-n [e$_i$ wamra-n$_i$-ta maqa-yka-q-ta] Hwan
Tom-obj see-pst-3 son-3p-obj hit-impf-sub-obj John

(54) Tumas$_i$-ta rika-ra-n Hwan, [e$_i$ wamra-n$_i$-ta maqa-yka-q-ta]
Tom-obj see-pst-3 John son-3p-obj hit-impf-sub-obj

[52] I assume somewhat simplistically, that *wamra-n* can be a member of the higher clause if it is adjacent to other elements of that clause. I will not be unduly concerned about its structural relationship to the higher clause.

[53] When *Tumas* escapes the lower clause, it gets a copy of the preposition, i.e., COMP, through which it passes. I assume *Tumas-ta* is adjoined to the VP and does not receive a θ-role from the verb of the higher clause.

In conclusion, the simple generalization of 46 covers many (perhaps all) cases, namely, *-n* '3p' (as in *wamra-n* 'his son') refers to the closest c-commanding noun phrase.[54]

In all the examples above, if we replace *wamra-n* 'his son' by *pay-pa wamra-n* 'of him, his son', we force exactly the opposite reference. For example, compare 55 with 44:

(55) [Tumas$_i$ pay$_{j \neq i}$-pa wamra-n$_j$-ta maqa-yka-q-ta] rika-ra-n Hwan$_j$.
'John$_j$ saw Tom$_i$ hitting his$_{j \neq i}$ son.'

In 55, *pay*'s governing category is the entire subordinate clause. Since *Tumas* c-commands *pay* in that domain, *pay* cannot be coindexed with *Tumas* without violating Principle B. Therefore, *pay* must refer to *Hwan* or to some other person.[55] And the *-n* of *wamran* is coindexed with *pay*, so cannot refer to *Hwan*: *pay$_j$-pa wamra-n$_j$* 'his$_j$ son' can only refer to someone's son other than John's.

5.3 Null first person plural inclusive subjects

Consider the following sentence from Cayco [3, p.2]):

(56) Chay la:sa-chaw ima mikuy-kuna-ta ranti-q-kuna allapa
that market-loc what food-plur-obj buy-sub-plur excessively

bara:tu ranti-y-ta muna-ma-sha-ø-qa aywa-y-ø-paq Ministeryu
cheap buy-inf-obj want-1(2)obj-advds-12p-top go-inf-12p-pur Ministry

de Agrikultura-pa dispa:chu-man rasun-pa risyun ka-q-ta
of Agriculture-gen office-goal real-gen price be-sub-obj

[54]There is only one apparent counterexample among the many possible ways to say 'John saw Tom hitting his son':

?Hwan$_i$ [[[e$_i$ wamra-n$_i$-ta maqa-yka-q-ta] rika-ra-n] Tumas$_{j \neq i}$-ta]

It seems that the immediate precedence of *Hwan*—coupled with the great distance of *Tumasta*—encourages coreference with *Hwan* rather than *Tumas*. I am not troubled by this case because it is probably not well-formed; speakers find it very strange. It seems to be a "garden path" sentence: If it were to end right after *rikaran*, it would be a perfectly natural way to say 'John$_i$ saw him$_j$ hitting his$_i$ son'. The analysis would be as follows: Hwan$_i$ wamra-n$_i$-ta$_k$ [[pro$_j$ e$_k$ maqa-yka-q-ta] rika-ra-n] When *Tumas-ta* is then encountered, it is most naturally interpreted as adjoined to the verb phrase: Hwan [$_{VP}$[$_{VP}$ wamra-n-ta [[pro e maqa-yka-q-ta] rika-ra-n]] Tumasta] By the generalization that covers all the other cases, the *-n* of *wamran* should be coindexed with the closest c-commanding NP, which would be *Tumasta*. Apparently, however, its coindexation to *Hwan* is—by the time *Tumas-ta* is encountered—sufficiently entrenched to resist change.

[55]As an isolated sentence, *pay* naturally refers to *Hwan*; this is probably because it is the only other referent in this limited context.

musya-na-ø-paq, ranti-na-ø-paq-pis, rantiku-na-ø-paq-pis.
now-sub-12p-pur buy-sub-12p-pur-indef sell-sub-12p-pur-indef

'If those who buy all sorts of food in the market want to buy from us at too low a price, we should go to the Ministry of Agriculture's office to know what the price really is for buying and for selling.'

In this sentence, there are three types of use of -ø '12p' (first person plural inclusive possessive): the first with *-sha-ø*, the second with *-y-ø-paq*, and the third with *-na-ø-paq*. In each of these -ø '12p' is in Agr-S' and—as expected—acts like a pronoun. I will now discuss these three in turn.

5.3.1 -ø '12p' following *-sha* 'advss'

-sha forms adverbial clauses, the subjects of which are always first person plural inclusive; these never co-refer with the subject of the superordinate clause. I analyze this as an adverbializer *-sha* followed by -ø '12p'. Since the latter is a pronoun, the different-subject property follows from Principle B, as discussed in section 6. We now consider various examples.

In examples 57 and 58, the subject of the subordinate clause is first person plural inclusive and that of the main clause is third person:

(57) Llapan chay-kuna-ta rura-sha-ø-qa marka-nchi limyu-na.
all that-plur-obj do-advds-12p-top town-12p clean-now
'If we do all that, our town (will be) clean now.'

(58) ... mas huk la:sa-pis ka-yka-n-mi mayu-pita chimpa-man pa:sa-sha-ø-qa.
another market-even be-impf-3-dir river-abl other side-goal pass-advds-12p-top
'...there is another market when we cross to the other side of the river.'

In examples 59 and 60 the subjects of the main and subordinate clause both superficially appear to be first person plural inclusive, contrary to the claim that *-sha* always involves a different subject. However, in both cases the subject of the main clause is really third person (as explained in section 3) because *-nchi:* and *-shun* have the DIP.

(59) Chay yayku-sha-ø-raq-mi mediku rika-ma-nchi kwirpu-nchi:-ta.
that enter-advds-12p-yet-dir doctor see-1(2)obj-12 body-12p-obj
'Not until we go in there does the doctor look at our body.'

(60) Chay-naw ligi-y-ta alli yacha-sha-ø-qa mana-na-mi pi-pis
that-sim read-inf-obj well know-advds-12p-top not-now-dir who-indef

llullapa:-ma:-shun-chu ima-ta-pis.
cheat-1(2)obj-12fut-neg what-obj-indef

'If we know how to read well like that, no one can cheat us out of anything any more.'

Like *-nchi:* '12p', -ø '12p' also has the DIP. For example, in 61 and 62, the -ø '12p' in *rura-ma-sha-ø* and *pa:sa-ma-sha-ø-pis* (respectively) is interpreted as '3' because to interpret it as '12' would violate Principle B:

(61) Chay-naw rura-ma-sha-ø huk-lla tapuku-shun chay wardiya-kuna-ta.
that-sim do-1(2)obj-advds-12p one-just ask-12fut that police-plur-obj
'If they do that to us, we should ask those police right away'

(62) ... chay-naw noqanchi willa-sha-ø-qa, pay yanapa:-ma-nchi
that-sim we(incl) tell-advds-12p-top he help-1(2)obj-12

ima pa:sa-ma-sha-ø-pis.
what happen to-1(2)obj-advds-12p-indef

'...when we tell that, he helps us, no matter what has happened to us.'

See also examples 79, 80 and the examples of Weber [42, p.300].

-ø '12p' is not limited to HgQ. 63 and 64 are from Huaylas (Ancash) Quechua (courtesy of Mike Miller):[56]

(63) Tapuka-ma-shqa-ø rason ka-q-ta willa-shun.
ask-1(2)obj-advds-12p true be-sub-obj tell-12fut
'When they ask us, we should tell the truth.'

(64) Ama penqaku-shun-tsu nuna-kuna ashma-ma-shqa-ø.
not be ashamed-12fut-neg man-plur insult-1(2)obj-advds-12p
'Let's not be ashamed if people insult us.'

See also [42, p.300, footnote 3]

Examples 65 and 66 are from Huanca Quechua (courtesy of Rick Floyd):[57]

(65) Chala-ma-chwan čhawa yaku-kta upya-šha-ø-m,
grab-1obj-12cond uncooked water-obj drink-advds-12p-dir

mana suma čhašha-šha mikuy-kuna-ta miku-šha-ø-m.
not well cook-prtc food-plur-obj eat-advds-12p-dir

'It (cholera) may strike us if we drink unboiled water or eat food that hasn't been completely cooked.'

---

[56] Stewart[32, p.133, ex.23] gives the following example:

... muru-ku-sha-pis ima-pis ka-n-tsu.
plant-ref-prtc-even what-even be-3-neg
'...although we planted, there isn't anything' (Stewart's gloss was '... there isn't anything of all that we planted')

This looks like a case of -sha-ø (-sub-12p), but the context implies that its subject is not first person plural *inclusive*, but *exclusive*. I do not know why.

[57] *čh* and *šh* represent the retroflexed variants of *ch* and *sh* respectively.

(66) Lika-pa:ka-ma:-šhun-si ... mana yačha-šha-ø.
look-plur-1obj-12fut-even not know-advds-12p
'They'll look at us ... because we do not know (what to do).'

The following is from Cajamarca Quechua (Quesada [30, p.88]):

(67) Chay puyñu-qa-m paki-ra-n llamka-shqa-ø-qa.
that jug-top-dir break-past-3 touch-advds-12p-top
'That jug broke when/because we touched it.'

Given that *-sha* forms adverbial clauses with a different subject, how does this *-sha* fit into the morphology? Rather than positing an independent suffix, it would be nice to see it as a case of some suffixes already posited. One suffix with the form *-sha* is the substantivizer used in relative clauses, e.g., *miku-sha-n aycha* (eat-sub-3p meat) 'the meat which he ate'. The category of *-sha* 'sub' is [+nominal,−bivalent] ; see Weber [41]. *-sha* 'advds' can be admitted by generalizing this to [−verbal,−bivalent], counting on -ø '12p' to make the valence [+complete].[58]When [−verbal] is further specified as [+nominal], a substantival clause results; when it is further specified as [−nominal], an adverbial clause results. I do not know why other possessive suffixes may not follow *-sha* in this adverbial use.

5.3.2 -ø '12p' with *-y...-paq* 'we(incl) should'

A verb inflected with *-y...-paq* (-inf-pur), may stand as the verb of a main clause, meaning 'we(incl) should...'. This is unusual in that the verb is substantivized and case-marked. However, it is understandable if we recognize that *...-y-paq* is the complement to an implicit *ka-n* (be-3) 'it is'. (*ka-n* is systematically suppressed in predicate complement constructions.)

Even recognizing that *-y-paq* is the complement of *ka-n*, there is no apparent binder for the anaphor *-y*, which I claim in section 7 is an anaphor. I propose that it is bound by -ø '12p'. Thus, the analysis of *reqi-y-paq* 'we should recognize him' is *reqi-ø$_j$-y$_k$-ø$_k$-paq (ka-n$_i$)* (recognize-obj$_j$-inf$_k$-12p$_k$-pur (be-3$_i$)), which we might paraphrase as 'the obligation$_i$ exists for us$_k$ to recognize him$_j$'. Because -ø '12p' is the only possessive suffix that could be between *-y* and *-paq* (none of the others having a null allomorph), it is always interpreted as 'we(incl) should'. Examples follow:

(68) Chay-naw suwa-pa:-ma-sha-ø-qa sumaq reqi-y-ø-paq chay suwa-ta.
that-sim steal-ben-1(2)obj-advds-12p-top well know-inf-12p-pur that thief-obj
'If someone steals from us like that, we should recognize that thief very well.'

[58]There is another possibility, namely *-sha* 'participle': *Miku-sha-ta tari-shka-:* (eat-prtc-obj find-perf-1) 'I found it eaten.' This *-sha*'s category is [+nominal,+complete]. If we do not count on -ø '12p' to complete the word, generalizing this category to [−verbal,+complete] admits the adverbializing *-sha*. However, in this case there is no clear correspondence between the meaning of *-sha* and the category; for [+nominal] it is third person but for [−nominal] it is first person plural inclusive.

(69) Ministeryu de Agrikultura-man manacha:qa Konsehu Munisipal-man,
ministry of agriculture-goal otherwise council municipal-goal

ima-pita-pis alla:pa chanin-ta maña-ma-sha-ø-qa willa-y-ø-paq.
what-abl-indef excessive price-obj ask-1(2)obj-advds-12p-top tell-inf-12p-pur

'If for anything they ask for too much (money), we should inform the Ministry of Agriculture or otherwise the Municipal Council.'

In Cuzco, the use of -ø with *-y...-paq* is not limited to first person plural inclusive. Lefebvre and Muysken [21, p.30] give the following example, to which I have added -ø 'PRO':

(70) Ancha mikhu-y-ø-paq allin. 'very good to eat' (lit. 'very good for us(incl) to eat')
very eat-inf-PRO-pur good

I have not found DIP effects with *-y...-paq* (as found in the other environments where it occurs). For example 71a is ungrammatical. I do not know why.

(71) aru-pti-nchi pa:ga-ma(:)- {a. *-y-ø-paq (-inf-12p-pur) / b. -shun (-12fut)}.
work-advds-12 pay-1obj-
'If we work, he should pay us.'

5.3.3 -ø '12p' with *-na...-paq* 'in order that we(incl)'

Purpose clauses with *-na-POSS-paq* where *POSS* is an explicit possessive suffix are common. Sometimes, however, these occur without an explicit possessive suffix. They act as though they had an explicit possessive suffix *-nchi:* '12p'. I analyze them as having -ø '12p'. Examples follow:

(72) Chay-chaw pa:ga-yku-sha-ø-qa huk-kaq papil-ta-qa qu-yka-ma-nchi,
that-loc pay-in-advds-12p-top one-def paper-obj-top give-in-1(2)obj-12

may-man-pis apa-na-ø-paq.
where-goal-indef take-sub-12p-pur

'When we(incl) have paid that there, they give us another paper for us to take wherever (we go).'

(73) Chay-naw ima-pis pa:sa-ma-sha-ø-qa huk-lla aywa-nchi
that-sim what-indef happen-1(2)obj-advds-12p-top one-just go-12

chay awturida:-man willa-na-ø-paq.
that authority-goal tell-sub-12p-pur

'If anything like that happens to us, we should go right away to tell that authority.'

Like *-nchi:*, -ø '12p' has the DIP discussed in section 3. For example, in 74 the -ø '12p' in *rispita-chi-ma:-na-ø-paq* is interpreted as '3' because to interpret it as '12' would violate Principle B:

(74) Pay-mi ka-yka-n Gubirnu-pa ruka-n ima-paq-pis llapan-paq
he-dir be-impf-3 president-gen replacement-3p what-pur-indef all-pur

pi: ima-ta rura-sha-ø-pis llapan-ta rispita-chi-ma:-na-ø-paq.
who what-obj do-advds-12p-indef all-obj obey-caus-1(2)obj-sub-12p-pur

'He (the Prefect) is the President's representative for anything and everything, to make us obey everything if any one of us does something.'

In section 6 we claim that *-r* 'advss' is an anaphor. In 75, it is bound:

(75) ... willa-ma-nchi:-mi
tell-1(2)obj-12-dir

[$_{SN}$[$_{SA}$ achka kasta wanu-kuna-ta taku-rka-chi-r$_i$] muru-na-ø$_j$-paq]
many kind fertilizer-plur-obj mix-up-caus-advss plant-sub-12-pur

'...they tell us to plant after having mixed all kinds of fertilizers'

The use of -ø '12p' with *-na...-paq* is not limited to HgQ. The following example from Cañaris (Lambayeque) Quechua (courtesy of Dwight Shaver) demonstrates the three uses of -ø '12p' described above:

(76) Inkawasi-manta shamu-ya-sha-ø, achka yaku ka-ti-n mana
Inkawasi-abl come-impf-advds-12p much water be-advds-3p not

pasa-y-ø-paq-chu ka-ra-n. Mana yaku-ta pasa-y-ø-paq ka-ti-n,
cross-inf-12p-pur-neg be-pst-3 not water-obj cross-inf-12p-pur be-advds-3p

largu waska-ta prista-ma-ra-nchik pasa-na-ø-paq.
long rope-obj loan-1obj-pst-12p cross-sub-12p-pur

'When we were coming from Inkawasi, because there was lots of water we(incl) were not able to cross it. When we were not able to cross the water, (he) loaned us a long rope so that we could cross.'

And in Cuzco Quechua, *-na-ø-paq* is frequent, but with the difference that -ø may be of any person, i.e., it is an arbitrary PRO. Lefebvre and Muysken [21, p.23] give the following example, to which I have added -ø 'PRO':

(77) Chay papa-kuna-qa mana-n allin mikhu-na-ø-paq.
that potato-pl-top not-dir good eat-sub-PRO-pur
'Those potatoes are not good to eat.'

5.3.4 Concluding remarks about -ø '12p'

I have been unable to find -ø '12p' in environments other than those discussed above. I do not know why its distribution is so limited.

I asked Teodoro Cayco, and independently his son Felix, whether 78b was grammatical. (This has a negative purpose clause, as described in Weber [38, p.115] and [42, p.293].)

(78) maqa-ma:-na- {a. -nchi: / b. ??-ø} -ta ayqi-shun
hit-1obj-sub- -obj flee-12 'Let us flee lest he hit us.'

Both had the same reaction: It almost sounds right, but falls just short of being really acceptable. Both understood it correctly, and both suggested making the possessive explicit, i.e., using *-nchi* instead of -ø '12p'.

6 Switch reference

6.1 Finer's approach

Finer [15, p.35,6] compares switch reference to English:

(1) a. Before he left, he visited Tucson.
b. Before Bill left, he visited Tucson.
c. Before he left, Bill visited Tucson.

> ...In languages with so-called switch reference systems, however, the coreference possibilities of NP's in examples corresponding to (1) are not free, *although the structural configuration of the sentences analogous to (1) is, as far as I can tell, identical to that of the above examples.* [italics mine—DJW]

I think the italicized portion of this statement is very questionable. It is crucial to Finer's approach, but he does little to justify it. (Indeed, how could such a claim be defended universally?) Finer [14, 15] treats switch reference in terms of subordination, assuming the following structure: $[_S[_S[_S \ldots]$ COMP$]\ldots]$ Same-subject switch reference markers are treated as $\bar{A}$-anaphors. Coreference with the subject of the higher clause is forced through the intervening COMP node and Principle A generalized for a $\bar{A}$-binder in COMP. Different-subject markers are treated as $\bar{A}$-pronominals, the disjoint reference forced by Principle B generalized for a $\bar{A}$-binder in COMP. Finer [15, p.41] explicitly rejects treating switch reference in terms of simple anaphors and pronouns:

> Two factors militate against a treatment of (3)–(12) [switch reference clauses in different languages—DJW] parallel to the analysis of (16) [John$_i$ believes himself$_i$ to be Napoleon., etc.—DJW], however. First, the subjects of the embedded clauses in (3)–(12) are straight pronouns or lexical

> NPs, not anaphors. As such, they are subject to principle (B) or principle (C) and cannot be bound in their governing categories. This contrasts with the requirement that anaphors *must* be bound in their governing categories. Second, there is no c-command between the two subjects, so the whole question of binding obtaining between two coindexed NPs is irrelevant....

For HgQ I disagree with virtually all of this statement, as should become clear shortly. Finer [15, p.39, footnote 5] writes:[59]

> In many of the languages under discussion, it is quite unclear whether coordination or subordination is the operative structure (hence the alternation in the glosses). For present purposes, I will follow Gorbet(1976), who claims that SR clauses are in fact subordinate, but "loosely" so.

However, Quechua switch reference does not seem to be "loosely" subordinate, but very tightly subordinate. The difference hinges around COMP, which in Finer's analysis provides a bit of a buffer between the main and subordinate clause. For HgQ there is no evidence of a COMP node for adverbial clauses, so Finer's analysis is unmotivated. But a much simpler solution is possible for HgQ, one that makes *no* use of COMP or non-argument binding.

6.2 HgQ *-r* 'advss' and *-pti* 'advds'

The basic facts of HgQ switch reference are documented in Weber [42, chap. 14].

HgQ adverbial switch reference clauses (SA) are usually adjuncts to the verb phrase:[60]

$[_S\ (NP_j)\ [_{VP}[_{SA}\ (NP_k)\ VP\ Agr\text{-}S_k]\ [_{VP}\ldots]]\ (Agr\text{-}S_j)]$

The governing category for the Agr-S of the switch reference clause (SA) is the clause within which it is embedded, since that is the smallest domain with an accessible subject. Whether NP_k is coreferential to NP_j or not depends on the binding properties of Agr-S in SA: if it is anaphoric, $k = j$; if it is pronominal, $k \neq j$.

The same-subject switch reference marker *-r* is a simple anaphor, bound by the subject of the higher clause. Consider the structure for 'Having eaten, I left.' given in Figure 9. I withhold judgment as to whether to posit an overt subject NP for switch reference clauses. As argued above, Agr-S *is* the subject. If an overt subject NP did occur, it would be coindexed with Agr-S (by the mechanism that coindexes Agr's and the corresponding overt NP). But I explicitly reject the idea that the overt subject NP is PRO.

[59] For clause-chaining in New Guinea languages, Roberts [31] treats switch reference in terms of coordination, i.e., $[_S\ldots][_S\ldots]$.

[60] Adverbial clauses can also be adjoined directly to the verb or to the sentence as a whole.

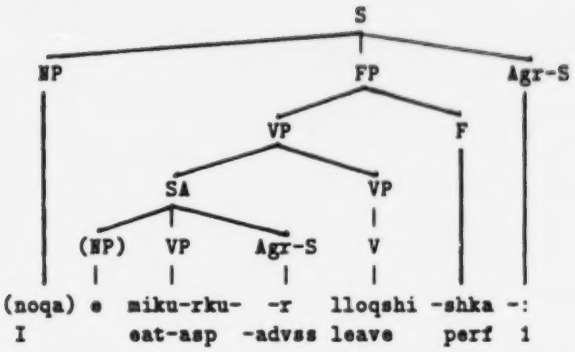

Figure 9: Having eaten I left.

In HgQ, *-r* cannot be followed by a possessive suffix. How might we account for this? Suppose that a possessive suffix were to follow (and thus bind) *-r*. This possessive suffix—a pronoun—could not be bound within the domain of the closest c-commanding subject without violating Principle B. If the clause headed by *-r* occurred in such an environment (e.g., as a VP adjunct), the possessive suffix would be disjoint in reference with the closest c-commanding subject (like clauses subordinated with *-pti*, as discussed below). If the clause did not occur in such an environment (e.g., it occurred in the COMP dominating the finite verb), the possessive suffix could be coindexed with the subject of the main verb, but this would not be required.

What these two undesirable alternatives have in common is a lack of proximity between the clause headed by *-r* and the clause it modifies. Thus, one might search for some way to lexically mark *-r* so as to require this proximity, and derive the prohibition against possessive suffixes as a result of the negative consequences just outlined. On the other hand, the simpler thing to do is simply stipulate—as a morphological property—that *-r* cannot be followed by a possessive suffix. Then, since *-r* is an anaphor, it would have to occur where it can be bound, and the same-subject behavior follows.

The different-subject adverbial clause *-pti* occupies F and is obligatorily followed by a pronoun in Agr-S. Because it is a pronominal, that Agr-S cannot be coindexed with the subject of the higher clause, as this would violate Principle B. The phrase marker for 'When Mary arrived, John left' is given in Figure 10. (As shown, the overt subject NP's of both the main and the adverbial clauses may occur, but this is somewhat unusual. Generally either one, the other, or both are empty.)

It is also possible to have adverbial clauses adjoined to the sentence as illustrated in Figure 10b. By "adjoined to S" I do not preclude that the clause has been moved to Comp, where sentences have the structure $[_{C'}$ Comp $[_{C'}$ C S]].[61]

[61] Adverbial clauses may also follow the main clause; see Weber [42, p.298, ex.1212].

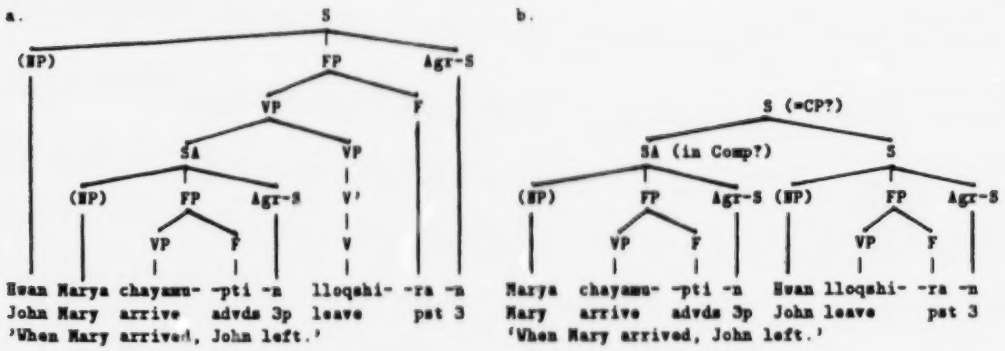

Figure 10: Different subject switch reference clauses.

Figure 10b violates no principle of the Binding Theory, but leaves unexplained why the subject of such subordinate clauses must be different than that of the main clause (which if the clause were adjoined to the VP would follow from the pronominal status of its Agr-S and Principle B). We can recover this by analyzing such adjoined clauses as having been moved from the VP: $[_S\ SA_j\ [_S[_{VP}\ t_j\ VP]]]$. For LF (where the binding principles are enforced) move-α would return them to the positions of their traces. Perhaps an argument for this is the high frequency with which *-qa* 'top', often associated with topicalized constituents, occurs on adverbial clauses.

To correctly index the Agr-S's of switch reference clauses, we must have a precise understanding of the structure of the sentence. This is not always immediately obvious. For example, consider 79:

(79) Chay-naw mana alli ka-r-mi mana hucha-yoq ka-sha-ø-pis
that-sim not good be-advss-dir not guilt-have be-advds-12p-pis

abusa-ma-nchi, mana ima-pis hucha-nchi ka-yka-pti-n.
abuse-1(2)obj-12 not what-indef guilt-12p be-impf-advds-3

'Since they are bad like that, even though we are not guilty, they abuse us, even though we are not guilty.' (literally, '...our guilt does not exist')

The structure of 79 is as follows:

$[_S[_S[_{VP}[_{SA}$ Chaynaw mana alli ka-r_k-mi$]$ $[_{VP}$ $[_{SA}$mana huchayoq ka-sha-$ø_{12}$-pis$]$ $[_{VP}$ abusa-ma_{12}-$]]][_{Agr\text{-}S}$-$nchi_k]]$ $[_{SA}$ mana imapis huchanchi kayka-pti-$n_j]]$

In particular, note that the *-r* is coindexed with *-nchi.* Because *-nchi:* '12' has the DIP and c-commands *-ma:*, it is interpreted as third person. Therefore, $-r_k$ is interpreted as third person, referring to the abusers.

6.3 The adverbializer *-shpa*

Adverbial clauses formed with the same-subject adverbializer *-shpa* 'advss' behave differently in different dialects. We discuss various cases.

6.3.1 HgQ and many Central dialects

In HgQ (and many other Central dialects), *-shpa* forms adverbs which are morphologically incomplete in the sense of Weber [41]; consequently they must be followed by a possessive suffix—a pronominal clitic. However, contrary to what we expect, this suffix must be coreferential with the subject of the main clause.[62] I analyze these as follows:

In contrast to the other adverbial clauses, switch reference clauses with *-shpa* are not sisters to the VP, but sisters to the S. Therefore their subjects can be coindexed to the subject of the superordinate clause without violating Principle B because they are not c-commanded by the subject of the main clause (and thus the co-indexing does not constitute binding).

Evidence for this is that adverbial clauses with *-shpa* show less proximity (semantic and syntactic) to the event indicated by the main clause than do adverbial clauses with *-r*. For AnQ, Cole [8, p.3] writes:[63]

> The choice between the two proximate suffixes *-r* and *-shpa* is determined by whether the two clauses are viewed as describing two related events, in which case *-r* is used, or two unrelated events, in which case *-shpa* is employed.

An example from HgQ follows:

(80) Kay radyu-kuna alli ima-ta-pis oqra-shpa-nchi, chay-man aywa-yku-r
this radio-plur good what-obj-indef lose-advss-12 that-goal go-in-adv

willa-sha, rima-mu-n chay runa "oqra-paku-sha pi-pis
tell-advds12 speak-afar-3 that man lost-diffuse-prtc who-indef

tari-sha ka-r-qa kay radyu-man kuti-chi-mu-y" ni-r.
find-prtc be-advss-top this radio-goal return-cause-afar-2imp say-adv

'These radio (stations) are good for (the following): if we lose something, if—after having gone there—we tell them, that man broadcasts saying "If anyone finds what was lost, return it here to the radio". '

The relevant part of the phrase marker is as follows:

[62] Hermon [20, p.132, footnote 17] dismisses evidence for these facts presented in Weber [37].

[63] Paradoxically, Huaylas *-shpa* has the "unrelated event" reading (see quote from Cole given above) even though—I believe—it is an anaphor. Cole's characterization fits HgQ better than it does Huaylas Quechua.

(81) [$_{VP}$[$_{SA}$[$_{SA1}$imatapis oqrashpanchi] [$_{SA}$[$_{VP}$[$_{SA2}$chayman aywaykur] [$_{VP}$willasha]] [$_{Agr\text{-}S}$-ø]]] [$_{V}$ rimamun]]

The time and place of SA1=*if we lose something* is quite removed from what follows, which happens at the radio station. Thus, it is fitting that SA1 be adverbialized with *-shpa* and adjoined to the SA rather than to its VP. By contrast, SA2=*having gone* is more semantically tied to its superordinate verb, together saying *if we go and tell.* Thus, SA2 is adverbialized with *-r* and adjoined to the VP headed by *willa-* 'tell'.

The difference between AnQ *-r* and *-r-nin* may also be one of semantic proximity; example 82 (Stewart [32, p.316, 24-6]) suggests this:

(82) Ni-r-nin-qa, alli kiririkuyku-r llapi-r usha-naq.
say-advss-3p-top good chomp-advss squash-advss finish-narrpast
'So saying, really chomping it he finished squashing it.'

The first clause, with *-r-nin* is temporally and thematically removed from the sequence of the following clauses, which convey a single action of squashing (a lizard) by biting down on it.

6.3.2 Imbabura Quichua and Huaylas Quechua

In Imbabura (Ecuadorian) Quichua and Huaylas (Ancash) Quechua, *-shpa* is never followed by a possessive suffix. Morphologically, in these dialects *-shpa* makes "complete" adverbs, and thus does not require a following possessive suffix.[64] *-shpa* always forms a same-subject switch reference clause.

Following Finer, Hermon [20] gives an account for these languages that treats the subject of the adverbial clause as PRO, pushing the matter into the theory of control. However a much simpler analysis is possible, that given for *-r* above: *-shpa* occupies Agr-S and is an anaphor. The clause it adverbializes is typically adjoined to the VP of the higher clause and is thus bound by the subject of that clause.

6.3.3 Pastaza Quechua

In Pastaza Quechua, *-shpa* may or may not be followed by a possessive suffix; this can be seen in the Pastaza text in Weber (ed.) [40, p.37ff].[65] With a possessive suffix, the adverbial clause has a different subject; without a possessive suffix, it has the same subject. This behavior is understandable if we take *-shpa* to be an anaphor:

- When no possessive suffix follows, *-shpa* is bound by the subject of the clause to the VP of which it is adjoined. Consequently it is a same-subject adverbial clause.

[64] This analysis is necessary for Imbabura because Ecuadorian Quichua dialects do not have possessive suffixes.

[65] Possessive suffixes are allowed after adverbializers because their subcategorization frame is [X[−verbal] __] rather than the narrower [X[+nominal] __].

- When a possessive suffix follows, *-shpa* is bound by that possessive suffix. Since that suffix is pronominal, it must not be coindexed with the subject of the higher clause. This forces disjoint reference, so that the clause is a different subject adverbial clause.

These two cases presume that the adverbial clause is adjoined to the VP. However, there is a third possibility: It might also be adjoined to the sentence. In this case, there must be a possessive suffix, since to fail to have one would leave the anaphor *-shpa* unbound. The possessive suffix could be either coreferential or non-coreferential to the subject of the sentence to which it is adjoined. In either case, we expect greater semantic distance than when the adverbial clause is adjoined to the VP. This cluster of "facts" is summarized in the following Table 3.

	$[_{VP}$ __ VP]	$[_{S}$ __ S]
without possessive	same subject, tight semantic relationship	does not exist
with possessive	perhaps do not exist[66]	same or different subject, loose semantic relationship

Table 3: Pastaza switch reference with *-shpa*

The rather complicated situation in Pastaza falls out quite directly from the assumption that *-shpa* is an anaphor.

6.3.4 Southern dialects

In some Southern dialects, e.g., Ayacucho (see Weber [40, p.169ff]) *-s(h)pa* may or may not be followed by a possessive suffix, but whether followed by one or not, the subject of its clause is coreferential with the subject of the higher clause.

When no possessive suffix follows, the adverbial clause must be adjoined to the VP of a higher clause so that *-s(h)pa*—an anaphor—can be bound by its subject. But when *-s(h)pa* is followed by a possessive suffix, *-sh(p)a* is bound by that suffix. In order that the pronominal suffix not be bound, in this case the adverbial clause must be a sister to the sentence, as discussed above for HgQ. This—I believe—results in an iconic behavior like that described above for Huallaga *-r* and *-shpa*: The presence of the pronominal clitic indicates greater semantic distance, whereas its absence implies

[66]The forms of the lower left-hand box would have a different subject but a tight semantic relationship. Crista Toetder (personal communication) regards their existence as questionable. If indeed they are not possible, this might be explained (i) on semantic grounds, on the basis that a different subject precludes semantic proximity, or (ii) as a reflection of the degree to which Ecuadorian dialects have moved from hypotactic to paratactic structures.

greater semantic proximity. See Weber [42, p.302, footnote 5] for a Cuzco Quechua example recorded by J. Loriot.

6.3.5 Concluding remarks about *-shpa*

At the heart of my account of how *-shpa* behaves in different dialects there is one commonality: *-shpa* is an anaphor. Correct predictions fall out from this and slightly different assumptions about structural configuration.

6.4 Some further cases

6.4.1 Adverbial clauses in substantivized clauses

In 83 (Weber [42, p.306]), the adverbial clause *utikar* 'when I get tired' is adjoined to the VP headed by *hama-kU-* 'sit/rest', which is subsequently nominalized:

(83) [$_{NP}$[$_{VP}$[$_{SA}$ Utika-r] hamaku-] -na -:] -paq-mi kay silleeta (kaykan).
tire-adv rest- -sub -1p -pur-dir this chair (it is)
'This chair is for me to rest on when I get tired.'

In 84, the adverbial clause *mana manchar* 'without fearing' is adjoined to the VP headed by *rura-* 'do', which is subsequently nominalized:

(84) [$_{SN}$[$_{VP}$ ima-ta-pis$_j$ [$_V$[$_{SA}$ mana mancha-r$_k$] rura-] [$_{AGR\text{-}O}$ -Ø$_j$]] [$_{AGR\text{-}S}$ -q$_k$]] -kuna
what-obj-indef not fear-advss do 3 sub plur
'those who do (anything) whatever without being afraid'

Both 83 and 84 are consistent with the analysis we have been pursuing, namely that *-r* is an adverbializer and the clause it heads is adjoined to the verb or one of its projections. A further example follows:[67]

(85) [$_{VP}$[$_{SA}$ infirnu-man aywa-r] [$_{VP}$[$_{SA}$ kañiku-q allqu-kuna-ta kañi-pti-n]
hell-goal go-advss biting-sub dog-plur-obj bite-advds-3p

[$_{VP}$ astaku-]]] -na-n-paq
whip- -sub-3p-pur

'in order to whip, as he goes to hell, the biting dogs that (might) bite him'

[67]The brave are invited to consider the following example: *[Tumaykashanchaw [uywa mikuyta mikuykaq]-ta tarir]-qa uywapa duyñunta astan [alwasirnin charipaptin] rinsa:ruwan [[uywata michir] mana sumaq mikuypita rikashan]-pita [[willaparir] willaparir] [yapaychaw sumaq rikananpaq].* '[If as he is circulating he finds [an animal eating food]] he whips the animal's owner [while the marshal holds him] with a rope [because [while pasturing the animal] he did look out well for the food] [[advising him] and advising him] [so that next time he look out well].'

6.4.2 Adverbial clauses and reciprocal

Consider 86:

(86) Mayqa-nchi:-si mas naw(pa)puntata chaya-r_k miku-naku$_k$-shun.
which-12-indef more ahead arrive-advss eat-recip-12
'Whichever of us(incl) arrives first will eat the other.'

I believe that the semantic interpretation of 86 requires that *-r* be bound by *-nakU* 'reciprocal' because what is reciprocal is ... *chaya-r miku-* "k eating j if k arrives first". If the adverbial clause were adjoined to the VP of the higher clause, the meaning should be 'Whichever of us arrives first, we will eat each other' but, of course, that is not what this sentence means. The required coindexing is possible if the SA is adjoined to the verb *before the reciprocal suffix is added*, as in Figure 11. It would not be possible if the SA were adjoined to the VP above the reciprocal.[68]

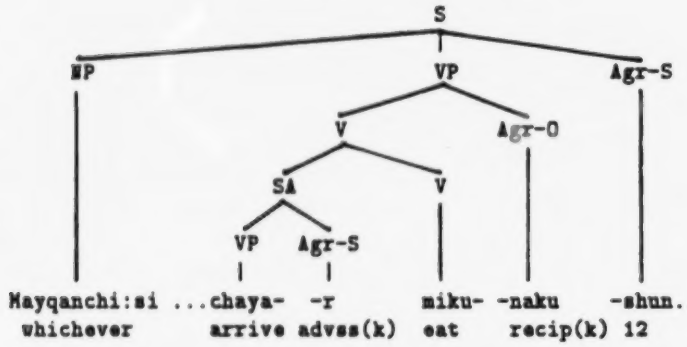

Figure 11: Whichever of us arrives first will eat the other.

[68] Pam Munro (personal communication) provided the following Mohave example, which may show the same phenomenon:

hatčoq-č poš taver-m iduu, poš-č hatičoq taver-m iduu,
dog-subj cat chase-ds be cat-subj dog chase-ds be

makap-č mat taver-m idoo-me.
one-subj ref/recip chase-ds be-tns

'(It must be that) the dog is chasing the cat or the cat is chasing the dog.'

The semantic interpretation of the last clause would seem to require that *-m* 'ds' depend on *mat*, a "non-agreeing proclitic used for reflexives and reciprocals." I am not sure this can be reduced to a structural requirement in which *-m* is bound by the reciprocal, as suggested for the Quechua example in the text.

6.4.3 Complements to phasal verbs

Phasal verbs (see section 2.3) select an optional same-subject switch reference complement headed by *-r*;

(87) mana-raq parla-r usha-pti-n 'before he had stopped speaking'
not-yet speak-advss finish-advds-3p
[$_{SA}$[$_{FP}$[$_{VP}$[$_{Adv}$ mana-raq] [$_{V'}$[$_{SA}$[$_{VP}$ parla-] [$_{Agr\text{-}S}$ -r$_j$]] usha-]] -pti] [$_{Agr\text{-}S}$ -n$_j$]]

The adverbial clause is a sister to the phasal verb.[69]

The following AnQ examples are from Miller [22, p.74,124]:

(88) usha-ri-rqu-: upya-r 'I just finished drinking.'
finish-aspect-pst-1 drink-advss

(89) qalla-yka:-mu-n choka-r-nin 'He started coughing.'
begin-impf-afar-3 cough-advss-3p

(90) upya-r usha-ri-r-na-shi ewku-rqu-naq.
drink-advss finish-aspect-advss-now-ind go-aspect-narrpast
'After he finished drinking, he went.'

6.4.4 Conchucos switch-reference anomalies

Stewart [32] claims that what appear to be switch-reference anomalies in Conchucos Quechua are really instances of *-pti* as a marker of thematic discontinuity. Such cases may be handled as sisters of S, as just proposed for *-shpa*. This allows the subject of the subordinate clause to be either coreferential or non-coreferential to that of the main clause. Consider example 91 (Stewart [32, p.334, ex.1]):

(91) Mi:sa-ta rura-ka-ski-pti-n-qa ku:ra-qa llushti-ku-r ...
mass-obj do-ref-pfv-advds-3p-top priest-top undress-ref-advss
'When the priest had finished saying mass, undressing ...'

This is followed by a long string of events—in same-subject adverbial clauses—in which the priest is the principal actor. The first clause of 91 looks like a switch-reference violation: its adverbializer is *-pti* 'advds' even though its subject—the priest—is the same as that of the following events. But this does not violate Principle B if the first clause is generated as a sister to the whole sentence. In that position, its Agr-S, the pronoun *-n*, is not bound (as it would be if this clause were adjoined to a VP).

Let us consider another case, that of 92 (Stewart [32, p.269, ex.90]):

(92) ... yayka-ra-tsi-ma-r shumaq parla-ku-ya-rqa-:.
enter-incep-caus-1obj-advss nice talk-ref-pl-pst-1
'...they ushered me in and we talked nicely with one another.'

[69] This is important to our claim about example 141 in section 9.

The *-r* refers to a group of people *exclusive* of the speaker while *-ya-...-:* (-pl...-1) includes the speaker. Let {SPEAKER} represent the first person, {X,Y,...} represent a group of people other than {SPEAKER}, and {SPEAKER}∪{X,Y,...} represent the first person as well as those people. Then the binding of 92 is represented in 93a and the understood referents in 93b:

(93) a. ... $-ma_i$ $-r_k$ ..... $-:_k$
b. {SPEAKER} {X,Y,...} {SPEAKER}∪{X,Y,...}

-r is coindexed with *-:* on the basis of co-referring to {x,y,...}, despite the discrepancy with {SPEAKER}.

6.5 Concluding remarks about switch reference

The analysis proposed here differs from Finer's and Hermon's analysis in that it does not presume a mediating COMP, nor does it depend on Ā-binding, nor on the theory of control. Our account is much simpler, and reflects the extent to which Quechua switch-reference phenomena are hierarchical.

7 *-y* 'infinitive'

Under the assumption that infinitives are clauses, PRO was invented to preserve the notion that every clause has a subject. Thus, in ... *wants* [$_{S'}$ COMP [$_S$ PRO *to win*]], *to win* is a sentence, the subject of which is PRO, rather than a VP (as in ... *wants* [$_{VP}$ *to win*]).

In HgQ, *-y* 'infinitive' occupies Agr-S, so it *is* a subject. There is therefore no motivation in HgQ for PRO. And if there is no PRO, then there is no theory of control.[70]

7.1 Infinitive object complements

As illustrated in section 4.2 with example 30, clauses headed by *-y* 'infinitive' may be object complements. A further example follows:

[70] I have unsuccessfully searched for cases to motivate PRO and a theory of control. For example, consider the following:

Hwan Marya-ta {a. willa- (tell)} -ra-n may-man aywa-na-n-paq-pis.
John Mary-obj {b. tapu- (ask)} -past-3 where-goal go-sub-3p-pur-indef

'John {a. told / b. asked} Mary where s/he should go.'

Unlike English, for which *ask* and *tell* have different control properties, in both a. and b. the subject of the complement may refer to John, to Mary, or to some other person.

For CzQ, Lefebvre and Muysken [21, p.39] reject the notion that infinitival clauses contain PRO; see particularly their discussion in connection with example 71.

(94) Aywa-y-ta muna-: 'I want to go.'
go-inf-obj want-1
[$_S$[$_{VP}$[$_{PP}$[$_{SN}$[$_{VP}$ aywa-] [$_{Arg\text{-}S}$ -y_j]] [$_P$ -ta]] [$_V$ muna-] [$_{Agr\text{-}O}$ -ø]] [$_{Arg\text{-}S}$ -$:_j$]]

There is no subject accessible to *-y* in the complement; the governing category for *-y* is the entire clause. *muna-* selects the infinitive object complement, so *-ta* is not a barrier. *-y*, an anaphor, must be bound in this domain; it is bound by *-:* '1'.

In HgQ, infinitive complements may not be followed by a possessive suffix. However this *is* possible in AnQ and some other dialects. The following is grammatical in AnQ but not in HgQ:

(95) AnQ: Maqa-ma_k-y_j-nintsik_k-ta muna-n_j. 'He wants to hit us(incl).'
HgQ: *Maqa-ma_k-y_j-ninchi:$_j$-ta muna-n_j.
hit-1obj-inf-12p-obj want-3

I account for this as follows: AnQ *-y* resists binding by an immediately following possessive suffix; see table 2, page 104. This permits the coindexing indicated in 95. By contrast, in HgQ *-y* would be coindexed with the following possessive. This possessive suffix—a pronoun—ends up bound in its governing category, so the sentence is ill-formed. (Compare this to 107 below, in which the adverbial clause is not selected by the verb.)

Consider 96 (Weber [38, p.86]):

(96) a. maqa- -ma -y -ta muna- -ø -n
b. maqa- -ø -y -ta muna- -ma -n
c. maqa- -ma -y -ta muna- -ma -n
hit 1obj inf obj want 1obj 3
'He wants to hit me.'

Weber [38, section 4.2.2] described this as "a sort of morphological raising," with (i) copying the object marker into the higher verb to get 96c, followed optionally by (ii) deletion of the object marker in the complement to get 96b). Various facts make this sort of analysis plausible:

1. There is nothing in principle to keep move-α from applying to Agr-O. It would be another case of incorporation along the lines of Baker's [1]. That these suffixes can be moved reflects their status as nominals.

   I assume a refinement to the principle of structure preservation: In addition to restricting the movement of phrasal categories to phrasal positions and lexical categories to lexical positions, Agr's move only to Agr positions.

2. As discussed in section 2.5, movement to Agr-O is possible because a θ-role is not necessarily assigned to it. For example, in *maqa-shqa ka-shu-nki* 'He had hit you.' (12), *-shu* gets its θ-role from the lower, transitive verb, so must have been generated there and moved to the auxiliary. This is rather compelling evidence that Agr-O may move from a complement to the verb that selects the complement.

3. In 96b and c, *muna-* 'want' does not assign a θ-role to *-ma:* '1obj'. Rather, I assume that *muna-*'s θ-role (expressing what is desired) is assigned to the object complement, precisely as in 96a.

4. Consider 97:

   (97) *Maqa-ma$_1$-y$_k$-ta muna-shu$_2$-nki$_k$.
   hit-1obj-inf-obj want-2obj-2

   Why is it ungrammatical? One explanation is as follows: *muna-* 'want' assigns its θ-role to the complement clause; it has no θ-role to assign to *-shu*. So *-shu* must get its θ-role from the complement by being coindexed with one of its arguments. This is impossible because *-ma* '1obj' occupies Agr-O and the Agr-S is coindexed with a third person.

Thus, I assume that the d-structure for the three possibilities in 96 is as follows, where the Agr-O of the higher clause is coindexed with the complement:

[$_S$[$_{VP}$[$_{PP}$[$_{SN}$[$_{VP}$[$_V$ maqa-][$_{Agr\text{-}O}$ -ma]][$_{Agr\text{-}S}$ -y$_j$]]$_k$[$_P$ -ta]] [$_V$ muna-][$_{Agr\text{-}O}$ -Ø$_k$]][$_{Agr\text{-}S}$ -n$_j$]]

96a results from no movement. 96b results by the movement of *-ma:* '1obj' to the Agr-O position of the higher clause.[71] When *-ma:* '1obj' moves, it leaves behind a trace (which it binds):

[$_S$[$_{VP}$[$_{PP}$[$_{SN}$[$_{VP}$[$_V$ maqa-] [$_{Agr\text{-}O}$ t$_k$]] [$_{Agr\text{-}S}$ -y$_j$]] [$_P$ -ta]] [$_V$ muna-] [$_{Agr\text{-}O}$-ma:$_k$] [$_{Agr\text{-}S}$ -n$_j$]]

I am not entirely certain how to handle 96c. Perhaps it results by move-α just like 96b, but with the difference that what is "moved" is really copied.

7.2 Infinitives in subject position

In English, an infinitive may be the subject of a main clause, as in [PRO *to err*] *is human*. For HgQ, this is not possible because *-y* is an anaphor. To see this, consider the structure that would be involved: [$_S$[$_{SN}$ ... -y$_j$]$_k$ ... Agr-S$_k$] The only possible binder for *-y* would be the clause it heads, but to coindex these (i.e., to take $j = k$) would violate the i-over-i Condition.

There is a class of apparent counter-examples. HgQ *-y* 'infinitive' forms many (perhaps several hundred) lexical nominalizations.[72] These may be the subject of the verb *ka-* 'be'; e.g.:

[71] I do not know whether it fills the empty Agr-O or is adjoined to it, but that is an implementation detail I am comfortable about deferring.

[72] Examples: *aru+y* 'work' from *aru-* 'work', *chaka+y* 'night' from *chaka-* 'be dark', *ha:ma+y-ni:* 'my breath' from *ha:ma-* 'breath', *miku+y* 'food' from *miku-* 'eat', *muchu+y* 'famine' from *muchu-* 'be scarce', *ñaka+y* 'suffering' from *ñaka-* 'suffer', *rupa+y* 'fever' from *rupa-* 'burn', *huk taka+y-lla-chaw-mi* 'with one blow' from *taka-* 'strike', *tumari+y* 'lap, revolution' from *tuma+ri-* 'revolve', *Hwan-pa uywa+y-nin* 'John's servant' from *uywa-* 'to raise', *kuya+y huti* 'nickname (name of affection)' from *kuya-* 'love', etc.; see Weber [42, p.51f].

(98) Ñaka-y mana ka-nqa-chu. 'There will not be suffering.'
suffer-inf not be-3fut-neg

(99) Mana-mi miku+y ka-n-na-chu. 'There is no longer any food.'
not-dir food be-3-now-neg

Evidence that these involve lexical nominalization rather than true infinitive complements is that not just any verb can be the subject:

(100) { *aywa- (go) / *puñu- (sleep) / *qachwa- (dance) } -y ka-ra-n (inf be-pst-3) 'There was *going/*sleeping/*dancing.'

7.3 Manner adverbs with *-y(-lla)-pa*

Adverbs formed with *-y-pa* (-inf-gen) or *-y-lla-pa* (-inf-just-gen) resemble "subject controlled gerunds" like 'My friend worked on her paper *while listening to music*' (from Emonds [13, p.72,3]). One thing they have in common is that their subject must be coreferential with the subject of the clause in which they occur. In Quechua, this is because they are anaphors.

(101) ... arma-ku-n_k [pushillu-wan hana-n-man wiña-ku-y_k-lla-pa].
bathe-ref-3 mug-with top-3p-goal pour-ref-inf-just-gen
'...they bathe, pouring water over themselves with a cup.'

(102) ... rura-pa-n_k llanqi-ta-pis [palma-pita pillta-y_k-pa]
make-ben-3 sandal-obj-indef palm-abl braid-inf-gen
'...they make sandals for him, braiding them out of palm (fiber)'

(103) ... hama-n_k ...[mana ima awturida:-pis ka-y_k-lla-pa]
rest-3 not what authority-indef be-inf-just-gen
'...they rest ...not being any authority.' i.e. 'rest from being...'

(104) [Tayta-n-ta mama-n-ta mana musya-chi-y_k-lla-pa]
father-3p-obj mother-3p-obj not know-caus-inf-just-gen

paka-y_k-lla-pa puri-pa:-naku-n_k.
hide-inf-just-gen walk-ben-recip-3

'Not letting their parents know, they "go out" together on the sly.'

(105) ... wasi-n-man pusha-ku-n_k mana pi-ta-pis willa-pa-y_k-lla-pa.
house-3p-goal lead-ref-3 not who-obj-indef tell-ben-inf-just-gen
'...he leads her to his house without telling anyone.'

(106) ... usha-y_k-pa usha-r_k kanta-nki$_k$...
finish-inf-gen finish-adv sing-2
'...crow again and again without ceasing...'

I believe that in all these cases the adverbial clause with *-y...-pa* is adjoined to the VP of the including clause and that thus *-y*'s governing category is the whole clause. Although the adverbial clause is not selected, *-pa* is not a barrier. (This may be related to the fact that in possessed noun phrases, *-pa* is not a barrier between the possessor and Agr-P; see footnote 50.) Therefore *-y* is bound by its subject.

Now consider 107. Here *-y* is followed by a possessive suffix:

(107) Mana musya-y_k-ni:$_k$-pa willa-shka-:$_k$ llapan-ta...
not know-inf-1p-gen tell-perf-1 all-obj
'Not knowing, I told him everything...'

The adverbial clause of 107 must not be adjoined to the VP headed by *willa-* because *-:* '1p' would be bound by *-:* '1'. Rather, it is adjoined to the sentence, with less semantic proximity to its verb than when adjoined to the VP. The contrast is clearer in 108 and 109:

(108) Weqru-y-lla {a. ø / b. *-: (1p)} -pa puri-:... -gen walk-1 'I walk limpingly.'
limp-inf-just

(109) Weqru ka-y-lla- {a. *ø / b. -: (1p)} -pa puri-:... -gen walk-1 'Being that I am lame, I walk...'
lame be-inf-just

The possessive suffix may not follow in 108b because the adverbial characterizes the manner of walking. It is semantically proximate and syntactically a sister to the verb or one of its projections. By contrast, the possessive suffix is required in 109 because the adverbial clause is semantically distant from the main clause. Syntactically it is adjoined to it, so the possessive suffix is required to bind *-y* (which would otherwise violate Principle A).

7.4 Infinitival relatives

Clauses headed by *-y* 'inf' sometimes—although very rarely in HgQ—modify nouns. In 110, *-y* is bound by the possessor of the head noun:[73]

(110) rayna ka- -y_j llachapa -n_j 'her clothes for being queen'
queen be -inf clothes 3p
[$_{NP}$[$_{NP}$[$_{SN}$[$_{VP}$[$_{NP}$ rayna] ka-] [$_{Agr\text{-}S}$ -y_k]] [$_{NP}$ llachapa]] -n_k]

[73]Stewart [32, p.315, ex.15] gives the following example for AnQ, which is the same except that the head is empty:

chakra aru-q ka-y_j ø-nin_j-ta qala-tuku-r 'changing from his work (clothes)'
field work-sub be-inf ø-3p-obj nude-make-advss

Here is another example (from Stewart [32, p.7]): *rika:-ya:-shu$_j$-y$_k$-niki$_j$ e$_k$-kuna-ta* (see-pl-2obj-inf-2p-plur-obj) 'those$_k$ who have seen you(pl)$_j$'. Note that the possessive suffix follows the empty head in the previous case, but follows it in the latter; I'm not sure this is justified.

By contrast, in 111 a possessive suffix binds *-y*.

(111) Nirkur manda-q ka-y-nin se:llu-wan se:llu-sha.
then order-ag be-inf-3p seal-inst seal-3perf
'Then he sealed it with the seal of his being an authority'
...[PP[NP[NP[SN[VP[NP manda-q] ka-] [AGT.S -y$_k$]] -nin$_k$] se:llu] -wan]...

If the possessive suffix did not follow *-y* 'inf', *-y* would have to be bound by *se:llu*, meaning something like 'with the seal which was the authority'.

The coinage *yachay wasi* is being promoted across the Quechua world as an alternative to the loan *iskwila* or *iskuyla* 'school'. In HgQ (and I suspect many other Quechua languages) *yachay wasi* makes no sense because *-y* is bound by *wasi*, but houses do not learn.[74]

I do not know why the infinitive in 112 is followed by a possessive suffix while in 113 it is not:

(112) qam-qa manda-q ka-y-niki-ta manakaq[75]-man chura-y-ta qalla-yku-shka-nki.
you-top order-sub be-inf-2p-obj nought-goal put-inf-obj begin-up-perf-2
'You have begun to bring to nothing your being an authority.'
[PP[NP[SN[VP[NP manda-q] ka-] [AGT.S -y]] -niki] -ta]

(113) Manda-q ka-y-ta-chu chaski-sha? 'Did he receive a position of authority?'
order-sub be-inf-obj receive-3perf
[S[VP[NP[PP[SN[VP[NP manda-q] ka-]-y$_j$]-ta]-chu]chaski-[AGT.O -ø]][AGT.S -sha$_j$]]

How is *-y* bound in 114? Apparently it is bound by *-shun*, but why isn't [PP... *-pita*] a barrier?

(114) Abusi:bu ka-y-lla-pita hwastidya-pa:-ma:-shun.
abusive be-inf-just-abl bother-ben-1obj-12
'They will bother us just because they are abusive.'
[S[VP[PP[SN[SN[VP[NP abusi:bu] ka-][AGT.S -y]]-lla]-pita]
[VPhwastidyapa:-[AGT.O -ma:]][AGT.S -shun]]

After all, generally when an infinitive clause is the object of an oblique preposition other than *-pa*, it must have a possessive as in the following (Stewart [32, p.314, ex.08]):

(115) llampu shonqu ka-y-nin-wan 'being [that s/he is] soft-hearted'
soft heart be-sub-3p-inst

[74] An acceptable alternative is *yachakuna wasi* 'a house for us(incl) to learn in':

[NP[SN[PP[VP yachaku-] [P -na] [AGT.S -ø]] [N wasi]]
learn -sub -12p house

[75] *manakaq* 'insignificant' undoubtedly comes from *mana ka-q* (not be-sub) 'which is nothing'.

7.5 *-y-paq* 'we should'

Section 5.3.2 discusses cases of V-*y-paq* meaning 'we should do....' I propose that -*y* is bound by -ø '12p' in these cases. (But for the existence of -ø '12p', these would be counter-examples to the claim that -*y* is an anaphor.)

7.6 Some derived adverbs

Some adverbs, which might now be fixed expressions, are derived from *-y-ø-paq*. For example, I understand HgQ *kuyayllapaq* 'beautiful' (as in *kuyayllapaq hipash* 'beautiful young woman') as follows:

(116) kuya- -ø$_j$ -y$_k$ -ø -lla -paq hipash$_j$
love -3obj -inf -12p -just -pur young woman
'a young woman worthy of our appreciating'

In Huamalies (Huanuco) Quechua, *mana awantaypaq* means something like 'irresistible', as in 117 (courtesy of Bruce Benson):

(117) sarikaykaman runtu vientuqa mana awanta-y-ø-paq
it grabbed me hail wind not resist-inf-12p-pur
'wind and hail that could not be resisted grabbed me'

In AnQ *manchariypaq* means 'frightening' (Stewart [32, p.121, ex.7]); this must have been *manchari-y-ø-paq* (fear-inf-12p-pur) 'for us to fear' or 'worthy of our fearing'.

For these cases I have posited -ø '12p' as the binder for -*y*. However, for other adverbs with -*y* positing -ø '12p' would be incorrect. Rather, these are adjoined to the verb (or some projection thereof) and bound by the higher subject. One such case is *hinaylla* 'just like that', which must derive from *hina-y-lla* (do.that-inf-just) 'do like that.' (*hina-* is no longer a verb in HgQ.) Another case follows:

(118) ñaka-y-ta-raq tari-sha
take:a:long:time-inf-adv-yet find-3perf
'He found it only after he had searched a good while.'

7.7 Concluding remarks about *-y*

A wide range of facts about the use of -*y* follow from the recognition that it is an anaphor.

8 *-q* [−verbal]

-*q* [−verbal] is used in a number of different ways: in relative clauses, in the habitual tense, in the purpose motion construction, the periphrastic future, and in "result" clauses with *-q-paq*. I claim that in all these cases -*q* is an anaphor.

8.1 Relative clauses

In relative clauses, *-q* is [+nominal]; the clause it substantivizes is an uncased sister to an NP (possibly empty), as permitted by rule 3.

Cole [10] and Lefebvre and Muysken [21] treat the restricting clause as an *S'*, a sister to the head NP, as in 119a. I propose instead that the restricting clause is simply an SN as in 119b, one case of rule 3. (Recall that SN abbreviates S[+nominal].) Given that the head will be coindexed with some element within the restricting clause, the general structure is more specifically as in 119c, and that for relative clauses with *-q* in 119d. An example is given in 120.

(119) a. $[_{NP}$ S' NP]
b. $[_{NP}$ SN NP]
c. $[_{NP}\ [_{S[+nominal]} \ldots NP_j \ldots]\ NP_j]$
d. $[_{NP}\ [_{S[+nominal]} \ldots [_{Agr\text{-}S}\ \text{-}q_j]]\ NP_j]$

(120) $[_{NP}[_{SN}[_{NP}\ e_i]\ [_{VP}$ maqa- -ma] $[_{Agr\text{-}S}\ \text{-}q_j]]\ [_{NP}$ runa$_j$]] 'the man who hits me'
hit 1obj sub man

Given this structure, we can understand why clauses substantivized by *-q* may only relativize into the subject position. *-q* is an anaphor so needs a binder in its governing category. The NP's head c-commands *-q* within the NP, so it binds *-q*. But *-q*, being the Agr-S of the restricting clause, *is* the subject (or, if we are uncomfortable with that, we could say that it is *coindexed* with the subject). Thus, the NP's head is always coindexed with the subject of the restricting clause.

Headless relative clauses are accommodated by admitting empty heads. Lefebvre and Muysken [21, p.170f] argue for the structure $[_{NP}[_{S'} \ldots NP_i \ldots][_{NP}\ e_i]]$. My proposal differs only in that I take the restricting clause to be an S[+nominal] rather than an S'. For example,

(121) payla timpuyka-q-ta talliriykur... 'Having tipped over the boiling pot...'
pot boil-sub-obj having tipped over
$[_{PP}[_{NP}[_{SN}[_{NP}$ payla$_i$] $[_{VP}$ timpuyka-] $[_{Agr\text{-}S}\ \text{-}q_j]]\ [_{NP}\ e_j]]\ [_{P}$ -ta]]

The subject NP is coindexed with *-q* by the general rule coindexing Agr's with their corresponding overt NP's. Because *-q* is an anaphor, it is coindexed with the $[_{NP}$ e]. Nothing special needs to be stipulated for this type of relative clause.

In Southern Quechua dialects, relative clauses formed with *-shqa* and a possessive suffix (e.g., *-shqa-n*) may not be used for relativizations into the subject. Lefebvre and Muysken [21, p.196f] give an account of this for CzQ. Under the approach pursued here, there is a more direct account: Relativization into the subject would coindex the possessive suffix in Agr-S with the relative clause's head, violating Principle B because the possessive suffix, a pronominal, is bound in its governing category.

However, such relative clauses *are* possible for HgQ (Weber [35, 38]) and other Central Quechua languages. In light of the just-given account for CzQ, this requires an explanation. I tentatively propose the following. Alongside relative clauses like

wañu-sha-n runa (die-sub-3p man) 'the man who died' there is the participle *wañu-sha runa* (die-participle man) 'dead man'. I claimed (Weber [42, p.283]) that these are structurally and semantically different, but suppose that *structurally* relative clauses with *-sh(q)a-n* are substantivizations with *-sh(q)a* 'participle' followed by a possessive suffix *in Agr-P rather than in Agr-S*. Section 5.2 argues that possessive suffixes in Agr-P are "mild" anaphors. Thus, from Agr-P the possessive suffix could be coindexed with the head of the relative clause, so relativizations into the subject are possible with *-sh(q)a-n*. (Relativizations into non-subject positions—for which the possessive suffix is not coindexed with the head—would still be handled as having a pronominal possessive suffix in Agr-S.)

The possibility of using *-sha* for subject relatives in HgQ shows that HgQ is not amenable to Lefebvre and Muysken's analysis. Likewise, the fact that they are impossible for CzQ, which has a participle like that on which I based the explanation for HgQ, shows that the explanation for HgQ is inconsistent with the CzQ facts. An account is needed that can explain both cases.

8.2 The habitual tense

The habitual tense (Weber [42, p.109f]) is formed by substantivizing the semantically main verb with *-q* and making this the complement of *ka-* 'be', which bears inflection for the subject:

(122) [$_S$[$_{VP}$[$_{SN}$[$_{VP}$ achka-ta miku-] [$_{Agr\text{-}S}$ -q$_i$]] ka-] [$_{Agr\text{-}S}$ -:$_i$]] 'I used to eat many.'
many-obj eat -sub be 1

-q is coindexed with the subject of the higher clause, which is an accessible subject within *-q*'s governing category.

Whenever *ka-* 'be' would be inflected as third person present, it is systematically absent; therefore the apparent main verb of many habituals is inflected simply with *-q*.

8.3 Purpose motion complements

The "purpose motion construction" is a clause adverbialized by *-q* as a sister to a motion verb such as *aywa-* 'go'; see Weber [38, p.114] and [42, p.292]. Only motion verbs select a purpose motion complement.[76]

[76] I believe that the adverb *tumariq* 'all around' may derive historically from *tuma-* 'circulate, go about' and *-q*; e.g.:

... inteeru kantu-n-pa tumari-q$_k$ adurnu-wan adurna-n$_k$.
entire edge-3p-gen circle-adv ornament-com adorn-3
'...they adorn it with ornaments [going] all around the edge.'

Chay-ta hana-lla-n-pa kuchu-nchi$_k$ tumari-q$_k$
that-obj top-just-3p-gen cut-12 circle-inf-just-gen

The subject of a purpose motion complement is usually coreferential to the subject of the superordinate clause. This follows from the fact that *-q* is an anaphor, coupled with the fact that the clause it heads occurs in the c-command domain of the subject of the superordinate clause. Examples follow:

(123) Hwan Marya-ta rika-ø-q aywa-ra-n. 'John went to see Mary.'
John Mary-obj see-3-sub go-pst-3
$[_S[_{PP}[_{VP}[_{SA}[_V[_{PP}$ Marya-ta] rika-] $[_{Agr\text{-}S}$ -q_j]] aywa-] $[_T$ -ra]] $[_{Agr\text{-}S}$ -n_j]

(124) Miku- -q shamu- -ra -:. 'I came to eat.'
eat sub come pst 1

In 123 and 124 the anaphor *-q* is bound by the subject of the superordinate clause. By contrast, consider 125, which means that the *first* rather than the *third* person is to go to eat. Thus *-q* is bound by the object, not the subject, of the higher clause.

(125) Miku- -q kacha- -ma -sha. 'He sent me to eat.'
eat -sub send -1obj -3perf

The adverbial clause is a sister to *kacha-* 'send' and not to the VP:[77] Compare 124 and 125 as diagrammed in Figure 12a and b respectively:

For English, similar facts would be explained by positing PRO as the subject of the purpose motion complement PRO *to go*, ascribing different control properties to *go* and *send*. The analysis I propose for HgQ is much simpler: It does not require PRO, the theory of control (probably the least developed and most questionable aspect of the Government and Binding theory), nor ascribing different control properties to *aywa-* and *kacha-*.

It is interesting to compare purpose motion complements (126a) with the standard purpose clauses (126b):

(126) Miku- eat { a. -q (-sub) / b. -na-:-paq (see-sub-1p-pur) } shamu-shka-: come-perf-1 'I came to eat.'

---

ruri-n-kaq-ta mana da:ña-y-lla-pa.
inside-3P-def-OBJ not damage-adv

'We cut that just on the surface, all the way around, being careful not to damage that which is inside.'

In these cases the superordinate verb, *adurna-* 'adorn' and *kuchu-* 'cut' respectively, are not now motion verbs that select a purpose motion complement. However, here both imply an activity that proceeds along a path.

As an adverbial, *tumari-q* cannot be followed by a case marker (**tumari-q-pa*) while *pasa-y-pa* 'very' cannot be without it (**pasa-y*). The difference is that *-y* 'inf' substantivizes while in this case *-q* adverbializes.

[77] In light of 125, one might expect the following to be grammatical, but it is not: **miku-q aywa-chi-ma-sha* 'He made me go eat.' This needs an explanation.

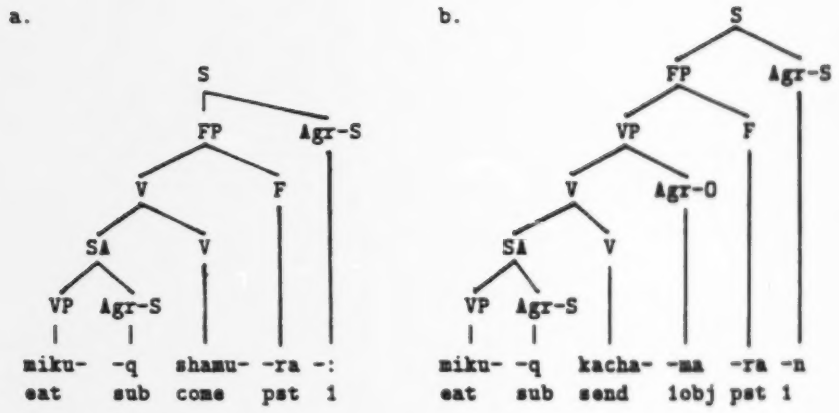

Figure 12: Purpose motion complements

Assuming that the purpose clause in 126b is a VP adjunct, how does the pronoun *-:* '1p' escape being bound in its governing category? The answer is as follows. Since the purpose clause is not selected by the verb, *-paq* is a barrier. Therefore, *-:* '1p' in the purpose clause is sufficiently "insulated" from *-:* '1' in the main clause that coindexing them does not violate Principle B.

A common way to express 'future' in HgQ is periphrastically, using the verb *aywa-* 'go' and a purpose motion complement:

(127) Wara kuti-mu-q aywa-:. 'I will return tomorrow.'
tomorrow return-afar-sub go-1

128 provides good evidence that the purpose motion complement is directly a sister of the verb and not adjoined to the VP:

(128) Taripa:- -ma -q -na aywa -nchi. 'He will now catch up to us(incl).'
catch up 1obj sub now go 12
[$_S$[$_V$[$_{SA}$ taripa:-ma-q-na] aywa-] -nchi]

As claimed in section 3, *-nchi* has the DIP whereby it can be indexed as 12 or 3, the latter taken only when the former would provoke a binding violation. Since *-q* is an anaphor, it is coindexed with *-nchi* and therefore acquires *-nchi*'s DIP. This has two effects:

1. If *-q* were indexed as '12', it would bind *-ma:* '1obj', violating Principle B. Therefore *-q* must be indexed as '3'. By virtue of being coindexed with *-q*, *-nchi* must therefore also be indexed as '3'.

2. By the DIP Corollary, because *-q* is indexed '3', its object must be coindexed with the DIP suffix's non-third value. Therefore *-ma:* is interpreted as a first person *plural inclusive* object, not simply as a first person *singular* object.

Therefore, the combination of (i) *-nchi*'s DIP, and (ii) the anaphoric status of *-q* determine that 128 is correctly interpreted as in 129a rather than 129b:

(129) a. taripa:-ma_{12}-q_3-na aywa-$nchi_3$ 'He will now catch up to us(incl).'
b. *taripa:-ma_1-q_{12}-na aywa-$nchi_{12}$

8.4 Sensory verb complements

As shown in section 5.2, sensory verb complements can be structured in various ways. When an overt subject NP occurs in the complement (e.g., 42), we must take it as the binder for *-q*. (Generally I have sought a clause-external binder for the *-r*, *-y* and *-q*, treating an overt subject NP and Agr-S as a discontinuous subject. However, in this case, this would leave *-q* without an appropriate binder.) This will also be the case when the object of the sensory verb complement moves into the main clause, as in 45.

The subject of a sensory verb complement usually occurs as the object of the higher clause. This is as expected because from that position it binds the anaphor *-q*. For example, in Figure 13 the subject *Tumas* occurs as the direct object of the higher clause: *Tumas* does not receive a θ-role from *rika-*; see section 2.5. There are two

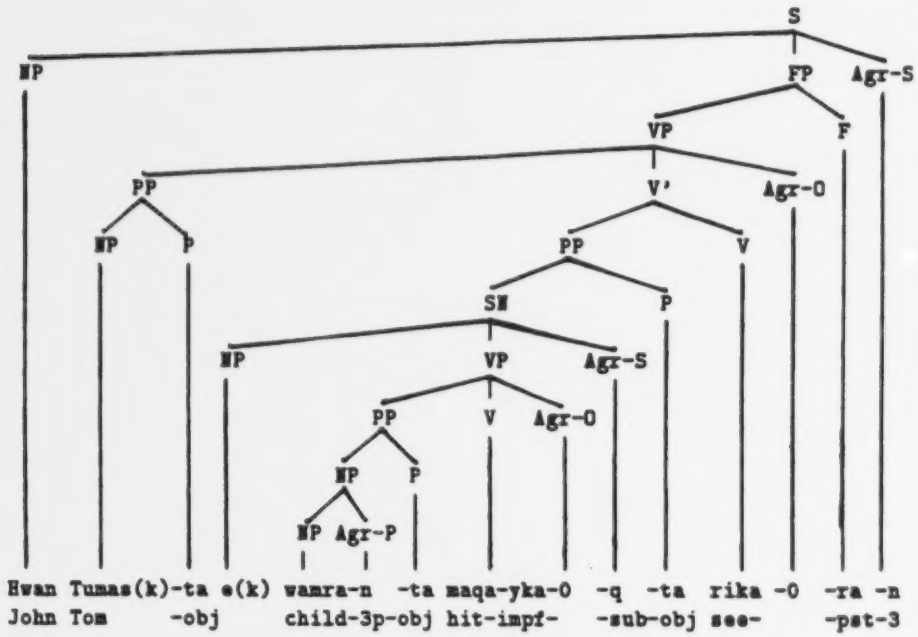

Figure 13: John saw Tom hitting his son.

ways it might receive a θ-role from the complement: (i) by *indirect* θ-role assignment

(Emonds [13]) or (ii) by being coindexed with a trace in the subject position, which would be the case if *Tumas* gets to the higher clause by move-α. (In the d-structure from which the second of these possibilities would be derived, *-q* would not be bound by *Tumas*, but since the binding conditions are imposed at LF, I assume that this is not really a problem.)

8.5 Possessive suffixes after *-q*

A relative clause substantivized with *-q* may be directly followed by a possessive suffix: *-ma$_i$-q(-ni:$_j$)* '3⇒1', *-ma$_i$-q(-ninchi:$_j$)* '3⇒12', *-shu$_i$-q(-niki$_j$)* '3⇒2', and perhaps *-ø$_i$-q(-nin$_j$)* '3⇒3', Weber [35, p.25]. In such cases, the possessive suffix is coindexed with the object. This does not violate Principle B because the possessive suffix is outside the object's governing category. And *-q*, an anaphor, is bound by the head of the relative clause, thus satisfying Principle A. Here is an example from AnQ (Stewart [32, p.184, ex.3]):

(130) ... qam-ta-pis kay mundu-man mira-ma-q-ni:-ta
you-obj-even this world-goal add-1obj-sub-1p-obj
'...and to you, who brought me into this world.'
[$_{NP}$ qam-ta-pis] [$_{NP}$[$_{SN}$[$_{SN}$[$_{VP}$kay mundu-man mira-[$_{Agr\text{-}O}$ -ma$_i$]][$_{Agr\text{-}S}$ -q$_k$]]-ni:$_j$]ø$_k$]

Weber [38, p.114, footnote 94] mentions that, although this is true for relative clauses, possessive suffixes may not follow the *-q* adverbializer of a purpose-motion complement. For example, 131 can only be interpreted as a relative clause, as in 131a, and not as a purpose motion construction, as in 131b:

(131) Willa-shu-q-niki shamu-sha. 'The one who tells you came.'
tell-2obj-sub-2p come-3perf *'He came to tell you.'

This difference may be because purpose motion complements must be adjacent to the motion verb that selects them in a way that the possessive suffix would interrupt.[78] However, "adjacent" here cannot mean "adjacency at s-structure," because purpose motion complements sometimes occur separated from the motion verb that selects them.

The facts are different for AnQ. For Huaylas, Pantoja et al. [27, p.410] give the following example:

(132) Kada hunaq-mi kutira-mu-shaq$_i$ yacha-tsi-ø$_k$-q$_i$-niki$_k$.
every day-dir return-afar-1fut learn-caus-sub-2p
'I$_i$ will return every day to teach you$_k$.'

For Conchucos, Stewart gives the following ([32, p.107, ex.4]):

[78]It is generally assumed that selected complements must be adjacent to their heads, at least in d-structure. Baker [1, p.383] says that two elements are not θ-coindexed at d-structure unless they are sisters. I do not know whether purpose motion complements get a θ-role from the verb that selects them.

(133) ... apa-$q_{j,k}$-man carcel-kuna-man qayku-tsi-mu-$\emptyset_k$-q_j-niki$_k$
take-1⇒2-cond jail-pl-goal put in-caus-afar-sub-2p
'...I_j could take you$_k$ to put you$_k$ into jail'
(Stewart:'...I could take you to jail to have you locked up.')

8.6 Other adverbs with *-q-paq*

Result clauses formed with *-q-paq* are described in Weber [38, p.116] and [42, p.293].[79] Examples follow:

(134) Shikwa-sha paki-q-paq. 'It fell with the result that it broke.'
fall-3perf break-sub-pur
[s[VP[PP[SN paki-q_j] -paq] shikwa-] -sha$_j$]

(135) Haru-shka-: paki-q-paq. 'I stepped on it with the result that it broke.'
step-perf-1 break-sub-pur
[s[VP[v[PP[SN paki-q_j] -paq] haru-] $\emptyset_j$ -shka] -:]

For AnQ, Stewart [32, p.317, ex.40,1] gives the following:

(136) ...[pacha-n-si$_k$ pashta-q_k]-paq llapi-ku-$\emptyset_k$-naq
stomach-3p-even burst-sub-pur squash-ref[80]-3obj-narrpast
'...he squashed it with the result that its stomach even burst'

If, as proposed here, the *-q* of *-q-paq* is an anaphor, then examples like 135 and 136 require the result clause to be adjoined lower than the Agr-O, so that *-q* will be c-commanded by the object of the higher clause. I do not know why *-paq* is not a barrier in this case.

Another sort of adverb formed with *-q* is seen in 137:

(137) Rura-sha " alli-mi ka-:" ni-q-naw. 'He did it as though saying "I am good".'
do-3perf good-dir be-2 say-sub-sim
[VP[PP[SN[VP ...ni-] [A$_{gr}$-S q_j]] -naw] rura-] [A$_{gr}$-S -sha$_j$]]

A similar case for AnQ is seen in 138 (Stewart [32, p.190, ex.62,3]). The only difference between this and 137 is that *-naw* has cliticized in 137 but *yupay* has not cliticized in 138:

(138) Chakra-:-kuna-ta rika-yku-nki$_k$ kiki-:-ta rika:-ma-q_k yupay-lla
field-1p-plur-obj see-pol-2 self-1p-obj see-1obj-sub like-just
'(You$_k$) look after my fields just as though you$_k$ were looking after me.'

I do not know why *-naw* and *yupay* are not barriers in these examples. (Perhaps it is because the θ-role they assign is somewhat different than the other case markers?)

[79] The adverb *usha-q-paq* 'completely' may be analyzed as *usha-q-paq* (finish-sub-pur), literally 'with the result that it finished'. *-q* would be bound by the subject of the verb it modifies. Perhaps in certain contexts *-ø* '1p' is an implicit binder: *usha-q_j-$\emptyset_j$-paq* (finish-sub-1p-pur), literally 'with the result that we(incl) finish (it).'

[80] *-ku* 'ref' is not a true reflexive here; it means that the actor carried out the action for his benefit.

8.7 Concluding remarks about *-q*

Recognizing that *-q* is an anaphor explains a wide range of facts about the clauses it heads.

9 Verb incorporation

I tentatively adopt Baker's [1] verb incorporation analysis for HgQ *-chi* 'causative'.[81]

Baker [1] argues that in d-structure causatives have their semantically-expected arguments. For a simple clause like *he goes* the d-structure is roughly [I'[NP he][I'[I' pres][VP go]]]. In the d-structure of the corresponding causative, *he* should be in the subject position, as in 139a. Incorporation (move-α applied to an X^0 category) moves *go* to the causative (where it adjoins), leaving behind a coindexed trace, as in 139b.

(139) a. [I'-[NP he] [I' pres [VP[C'-[C'-[I'-[NP he] [I' I [VP[V go]]]] C] [V cause]]]]
b. ...[VP t_k]]] C] [V [V go]$_k$ [V cause]]]]]

By the "Government Transparency Corollary" (GTC, Baker [1, p.64]), the composite verb governs the "causee"—*he* in this example. For this reason it is treated as a direct object (You make *him* go).

Let us now turn to Quechua. Consider example 140. The d-structure would be as in 140b[82] and the s-structure (after move-α moves *aywa-*) as in 140c.

(140) a. pay qam-ta aywa-chi-shu-ra-yki 'He made you go.'
he you-obj go-caus-2obj-pst-2
b. ...[VP [V aywa]] [I 2]] [C ø] [V -chi]] [F -ra]] [I -n]]
c. ...[VP [V t_k]] [I 2]] [C ø] [V [V aywa-]$_k$ [V -chi]]] [F -ra]] [I -n]]

By the GTC, the causee is governed by *aywa-chi-* (go-cause-);[83] this accounts for why it is treated as the direct object—case-marked with *-ta* 'obj' and triggering object agreement on the verb.

Causatives of transitive clauses are more complicated.

9.1 Verb incorporation and adverbial clauses

A verb incorporation analysis of causatives—coupled with our proposal that *-r* 'advss' is an anaphor—yields an account of a rather surprising case, that of 141:

[81] It may also account for *-na:* 'desiderative', *-qtu(kU)-* 'pretend', and perhaps other verbal suffixes. In the same vein, *-pa:* 'benefactive' and *-:shi* 'associative' may be cases of preposition incorporation.

[82] Note that this is consistent with Chomsky's proposal to put Adv lower than Agr-O.

[83] Further evidence that *aywa-chi-* governs the causee is that it is not possible to say **aywa-chi-ma-ru-:* 'I made myself go': the governing category of the causee is now the entire clause, so the pronoun *-ma* '1obj' cannot be bound by *-:* '1' as this would violate Principle B.

(141) Ñaka-r$_i$ qoya:-chi-ma$_i$-sha. 'He made me pass time suffering.'
suffer-advss pass.time-cause-1obj-3perf

This is an apparent switch-reference anomaly: the subject of the adverbial clause—the sufferer—is not coreferential with the subject of the main clause—the causer—but with the causee, the surface object of the causativized verb *qoya:-chi-*.[84]

I account for this as follows: The adverbial clause *ñaka-r* is a sister to *qoya:-* (that is, *ñaka-r* is an S[+r] complement selected by a phasal verb). Thus, *-r* is bound by *qoya:-*'s subject. When *qoya-* moves to join *-chi* 'caus', its subject is still available as a binder for *-r*; the fact that *qoya:-*'s Agr-S appears as the Agr-O of the composite verb *qoya:-chi-* reflects a change of governor, not of structural configuration.

However, this may involve movement. Perhaps an account can be given in which move-α moves the causee from the subject of the lower clause into the Agr-O of the higher clause. As argued in section 7.1 for infinitive object complements, movement to Agr-O does not violate the θ-Criterion. The causee would get its θ-role through a trace in the position of the subject of the lower clause.[85]

I leave the implementation of this idea open. Regarding the case-marking of the causee, Baker [1, p.192] writes, "The invocation of such a rule is perhaps the least appealing and least principled aspect of the whole VI [verb incorporation–DJW] account of morphological causatives." Baker then argues that case-marking the causee is "special" rather than principled. In light of this, I make no apologies for leaving the issue open.

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[84]Stewart [32, p.282, ex.110] gives the following example, an apparent switch-reference violation structurally similar to 141:

> Tsari-rku-r mana maki-ki-chaw shupra-ka-n-tsu
> grab-up-advss not hand-2p-loc peel-pass-3-neg
> 'Upon grabbing it/When you grab it, it (the wheat) can't be peeled in your hand.'

The d-structure would have the adverbial clause *tsarirkur* adjoined to the VP of a sentence 'you peel it in your hand'. Although passivization has applied, the second person subject is still available as a binder for *-r* 'advss'. One motivation for Baker's incorporation analysis of passives is to explain such "implicit argument effects"; see Baker [1, p.315,6]. The following example (Stewart [32, p.186, ex.24,5]) is a further case:

> Waqa-yka-nqa-yki-ta-qa shoqa-ka-nki. 'Be consoled, you who are crying.'
> cry-impf-sub-2p-obj-top console-pass-2

One would expect that after passive the object could not surface. (Another interpretation of this is that *shoqo-* has two objects, the person to be consoled and that from which s/he is to be consoled. In this case the "consoled" becomes the subject by passive and the other surfaces as an object.

[85]I think an argument can be made against the claim that *-chi* assigns a θ-role to the causee on the basis that the θ-role depends on the degree of agency imputed to its subject, which is largely determined by the causativized verb; see Cole [11].

9.2 Infinitive object complements and verb incorporation

Consider 142 and 143:

(142) Ligi- -y_j -ta yacha- -$:_j$. 'I know how to read.'
read inf obj know 1

(143) Ligi- -y_j -ta yacha- -chi -ma_j n. 'He teaches me how to read.'
read inf obj know caus 1obj 3

In section 7.1 I rejected the analysis of 142 using PRO in favor of treating *-y* as an anaphor. Likewise, if we were to analyze 143 as is done for English, we would posit a PRO in the infinitive clause and say that *yacha-chi*—like *teach*—is an object control verb. I reject this analysis in favor of a verb incorporation analysis. The d-structure would be as in 144a and the s-structure in 144b. (More for the sake of simplicity than out of conviction, I assume that *-chi* 'cause' selects an S complement.)

(144) [$_S$[$_{VP}$[$_S$[$_{VP}$[$_{PP}$[$_{SN}$[$_{VP}$ ligi-] [$_{Agr\text{-}S}$ -y_j]]] [$_P$ -ta]]

{a. [$_V$ yacha-]] [$_{Agr\text{-}S}$ 1_j]] [$_V$ -chi] [$_{Agr\text{-}S}$ -n]]
b. [$_V$ t_k]] [$_{Agr\text{-}S}$ 1_j]] [$_V$[$_V$ yacha-$_k$] [$_V$ -chi]] [$_{Agr\text{-}S}$ -n]]}

The important advantage of this analysis is that after *yacha-* moves to join *-chi* 'caus', its subject is still available as a binder for *-y*. The fact that the causee ends up as the Agr-O reflects that it is governed by *yacha-chi-*, not a change of structural position.

This sort of analysis depends on giving infinitive complements a low attachment point. The necessity of doing so can be seen 145:

(145) Shunta- gather {a. -y-ta (inf-obj) / b. *-na-yki-ta (sub-2p-obj)} yacha-chi-ø-:. learn-caus-2obj-1
'I teach you to gather.'

Consider the various attachment possibilities for 145b given in 146:

(146) a. [shunta-na-yki_2-ta [yacha- -chi -$ø_2$ -$:_1$]]
b. [shunta-na-yki_2-ta [yacha- -chi -$ø_2$]] -$:_1$
c. [shunta-na-yki_2-ta [yacha- -chi]] -$ø_2$ -$:_1$
d. [shunta-na-yki_2-ta yacha-] -chi -$ø_2$ -$:_1$

Why is 145b ill-formed? If we take the complement to be attached as in 146c or d, there is an easy explanation, namely that the pronoun *-yki* '2p' is bound in its governing category (by -$ø_2$ in the higher clause).[86]

But why is 145b not acceptable with the complement attached *above* -$ø_2$, as in 146a or b? (From a lexicalist perspective we would expect these to be well-formed; that is, we would expect *shuntanaykita* to be a complement of *yachachi-*.) Their ungrammaticality cannot be explained as a binding violation. Rather, they are bad precisely because the complement is not sufficiently close to the verb (*yacha-*) that selects the complement. (But exactly how?)

[86]Such low attachment seems consonant with Cole's [9] clause union analysis.

10 Some important differences between AnQ and HgQ

10.1 Possessive suffixes after *-q*, *-y* and *-r*

AnQ and HgQ differ in the way a possessive suffix binds following *-q*, *-y* and *-r*. The differences are summarized in Table 4. I suggest that *-q* in HgQ and AnQ, as well as *-y* and *-r* in AnQ, are lexically marked to resist binding by an immediately following possessive suffix. Since *-q*, *-y* and *-r* are subjects accessible to the object, the possessive suffixes are outside of the object's governing category. Thus, the possessive suffixes may bind the Agr-O.

	Huánuco	Ancash
POSS coindexed with Agr-O	$-OBJ_i-q-POSS_i$	$-OBJ_i-q-POSS_i$ $-OBJ_i-y-POSS_i$ $-OBJ_i-r-POSS_i$
POSS coindexed with Agr-S	$-OBJ-y_i-POSS_i$ $*-OBJ-r_i-POSS_i$	

Table 4: How possessive suffixes bind after *-q*, *-y* and *-r*

There are a few apparent counter-examples.

1. It is tempting to analyze ***muru-ku-y-nintsik-ta-pis*** (plant-ref-inf-12p-obj-even), which Stewart ([32, p.122, ex.13]) glosses 'our crops', as an infinitival relative with a null head, 'what we planted'; however, this would contradict the claim that AnQ *-y* rejects binding by an immediately following possessive suffix. Therefore, I believe it is a possessed, derived nominal—as Stewart's gloss suggests.

2. If *-q*, *-y* or *-r* followed by a possessive suffix occurs after an intransitive verb, then there is no Agr-O for the possessive suffix to bind. Consider the following AnQ example (Miller [22, p.75 ex.143]):

   (147) tambu-ta cha:mu-r-nin ranti-rqu-:.
   store-obj arrive-advss-3p buy-past-1
   'After arriving at the store, I bought (it).'

   Here, *-nin* seems to be fused with *-r* to form *-rnin*, as discussed in section 10.3.3.[87]

[87] Note that *cha:mu-* 'arrive'—despite being an *intransitive* verb—seems to have an object, namely

3. Example 155 below is exceptional in that (i) it is an apparent switch-reference violation and (ii) the possessive suffix binds *-r*. It seems like a genuine counter-example.

10.2 Are *-q*, *-r* and *-y* in F?

In AnQ, *-q*, *-r* and *-y* allow a following possessive suffix. It is therefore tempting to consider that they fill F, with the following possessive suffix occupying Agr-S. However, this is wrong because the possessive suffix is coindexed with the object, which is possible only because it is outside of Agr-O's governing category, which would not be the case if the possessive suffixes were in Agr-S.

Consider *maqa-ma-y-nintsik-ta muna-n* (hit-1obj-inf-12p-obj want-3) 'He wants to hit us'. The explanation for why *-nintsik* '12p' is interpreted as '3' is that coindexing *-nintsik*'s '12' value with *-ma* would violate Principle A. (Since *-nintsik* has the DIP, it is consequently indexed as third person.) This account works if *-y* is in F and *-nintsik* in Agr-S, but it does not seem to work if *-y* is in Agr-S, since then *-nintsik* is outside of *-ma*'s governing category. So to preserve the account of the dual interpretation phenomena, we must show that *-nintsik* is necessarily coindexed with *-ma*.

I believe *-nintsik* must be coindexed with *-ma* because *-nintsik* must get a θ-role. Since *-nintsik* is outside of the clause, it cannot get its θ-role directly; rather it must get it by being coindexed with a position in the clause that gets a θ-role. Since in AnQ *-y* resists binding by a following possessive suffix, *-nintsik* cannot get its θ-role from *-y*. The only alternative, then, is Agr-O, so *-nintsik* must be coindexed with *-ma*.

Therefore, we can continue to assume that clauses headed by *-q*, *-r* and *-y* do not have an F (or equivalently, that *-q*, *-r* and *-y* are portmanteaus of F and Agr-S). Further, when HgQ *-q* and AnQ *-q*, *-y* and *-r* are followed by a possessive suffix, it binds Agr-O. This is a consequence of these anaphors being lexically marked to disallow binding by an immediately following possessive suffix.

10.3 How AnQ *-r* is like HgQ substantivizers

There are various ways in which AnQ adverbializers behave like HgQ substantivizers. For example, in 148 (Pantoja et al. [27, Vol.2, p.376, l.65]) *-pti* 'advds' acts like *-sh(q)a* in forming a relative clause:

(148) qori-ya-pti-n ora 'when they arrived'
unite-plural-adv-3P time

In the following sections I give examples in which AnQ *-r* 'advss' behaves like HgQ *-q* 'sub'.

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tambu-ta 'to the store'. This suggests that *-nin* is an object agreement marker. (Perhaps it signals an increase in the verb's transitivity?)

10.3.1 -r may be a complement

A clause headed by *-r* may be a complement. In 149 (Stewart [32, p.191]), it is the complement to *ka-* 'be':[88]

(149) ... llapan-ta parqo-paku-rnin muru-paku-rnin ka-yka-nki
all-3p-obj irrigate-iter-advss plant-iter-advss be-impf-2
'...be irrigating and planting all of them.'

Other examples from Miller [22] are *parla-r ka-yka:-ya-n* (talk-advss be-impf-plur-3) 'they are talking' and the following:

(150) punku waqa-r ka-yka:-ptin... 'because the door was squeaking...'
door cry-advss be-impf-advds

These are well-formed in AnQ because the "adverbial" clause is the *complement* to *ka-*, from which position *-r* can be coindexed with *ka-*'s subject.[89]

In 152 (Stewart [32, p.231, ex.63,4]) a clause headed by *-r* is a complement of *willa-*:[90]

(152) ... willa-q Dios-nintsik-pa Palabra-n-chaw ama tsay-naw ka-rnin-qa
tell-1⇒2 God-12p-gen word-3p-loc not that-like be-advss-top
'...I tell you "In God's Word it says not to be like that.'

10.3.2 -r may be assigned Case

-r may be followed by case markers (suggesting that it is [+nominal] rather than [−nominal]). Stewart [32, p.153, ex.53-55] gives the following:

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[88]There are two possible analyses:

a. [$_S$[$_{VP}$[$_{SA}$ murupakurnin] ka-] [$_{Agr\text{-}S}$ -nki]]
b. [$_S$[$_{VP}$[$_{SA}$ murupakurnin] [$_{VP}$ ka-]] [$_{Agr\text{-}S}$ -nki]]

In a. the adverbial clause is the complement of *ka-* whereas in b. *ka-* is an existential and the adverbial clause is adjoined. I believe a. to be the more reasonable analysis.

[89]In HgQ, the adverbial clause would have to be adjoined to *ka-* or one of its projections. When *ka-* is existential the adverbial clause may be adjacent to *ka-* or outside the clause: *iti yurir kanqa* or *yurir iti kanqa* 'There will be an infant when it is born.' (more literally, 'An infant, being born, there will be'). When *ka-* is predicational, the adverbial clause may not intervene between the complement and *ka-*: *yurir hatun kanqa* 'When born, it will be big' is well-formed, but ?**hatun yurir kanqa* is not.

[90]With reference to the following example [32, p.275, ex.104], Stewart says, "A switch-reference clause may even function as a subject complement":

(151) Loqloq-ya-rnin-qa pa:ra-n-lla.
bubble-become-advss-top stop-3-just
'The bubbling stops.'

However, I believe *loqloqyarninqa* is not the subject, but a complement to phasal verbs as discussed in section 6.4.3. The structure is [$_{VP}$[$_{SA}$ *loqloq-ya-rnin-qa*] *pa:ra-*].

(153) ... puri-rqa-yki tsoqpa-ku-r-yaq hasta waqa-r-yaq
travel-pst-2 implore-ref-advss-lim until cry-advss-lim
'...you went, imploring, even to the point of crying'

10.3.3 -r may be followed by possessive suffixes

-r may be followed by possessive suffixes. These are usually(!) coindexed to the object. For example: *llaki-ma$_i$-r-ni:$_i$-pis* (be.sad-1obj-advss-1p-even) 'should you still be sad for me...' (Stewart [32, p.186, ex.21]); *wanu-tsi-ø$_i$-r-niki$_i$-qa-m* (die-caus-advss-2p-top-dir) 'if I kill you' ([32, p.273, ex.98]) and the following ([32, p.190, ex.56]):

(154) ... yanapa-ø$_i$-r$_k$-niki$_i$-kuna ka-ra-:$_k$ 'I used to help you ...'
help-obj-advss-2p-plur be-pst-1

But in 155 (Stewart [32, p.190, ex.54]), *-r* is bound by the possessive suffix:

(155) ... awkin-ya-r$_i$-niki$_i$ patsa-chaw haqi-shayki
old-become-advss-2p ground-loc leave-1⇒2future
'...when you become old, I will leave you in the ground.'

If *-niki* were not available as a binder, *-r* would have to be c-commanded by the second person object of *haqi-* (to be bound by it). But since *-niki* is an available binder, the adverbial clause can be a sister to the main clause. This is like Pastaza *-shpa* (section 6.3.3): when a possessive binds the adverbializer it becomes a *different subject* adverbial clause.

Is *-rnin* mono- or bimorphemic? We cannot say that in *-rnin* (/-r-nin/), *-n* is always coindexed with the object since *-rnin* may follow an intransitive verb; e.g., *waqa-rnin* 'crying' (Stewart [32, p.131, ex.4,5]). Thus, in some cases we must recognize that *-rnin* is a single suffix. (This is how Hermon [20] treats it.)

Further, in some cases *-rnin* agrees with a person other than third (Stewart [32, p.272, ex.96]):

(156) Reqi-tsi-y-niki-kuna-ta muna-rnin pusha-ya-ra-q
know-caus-inf-2p-plur-obj want-advss guide-pl-pst-1⇒2
'Wanting to familiarize you with it, I guided you(pl) there.'

For such cases we do not wish to claim that *-rnin* is really /r-nin/ (-advss-3p). The solution is to recognize that *-rnin* may be mono-morphemic.

In other cases, *-rnin* is bimorphemic. Evidence for two morphemes is that *-lla* may intervene, as for example in the following (Stewart [32, p.158, ex.96]):

(157) kachay bera:ku-naw puri-ku-r-ni-lla-n-na
wild boar-sim travel-ref-advss-ø-just-3p-now
'if you still go around like a wild boar'

11 Conclusions

I have demonstrated the descriptive and explanatory advantages of treating certain Quechua suffixes as nominals, submitting them to the binding theory. This works hand in hand with an understanding of Quechua structure in which syntactic and morphological rules are intermixed more freely than allowed under virtually any version of the lexicalist hypothesis. This combination provides insightful analyses for a wide range of morphosyntactic phenomena. Here are some of the major claims made here:

- The subject marking anomaly is motivated by the pronominal status of the suffixes involved and Principle B. Suffixes may have the "dual interpretation property" whether or not their forms lend themselves to bi-morphemic analysis.
- HgQ complementizers are really its case-marking suffixes. Whether these are barriers depends on verbal selection.
- Unlike the subject agreement markers, which are pronominal, the possessive suffixes are "mildly" anaphoric.
- *-r* 'advss', *-y* 'inf' and *-q* are anaphors. They may form a unit with a selecting verb, to which further morphological processes can be applied.
- A null possessive suffix *-ø* '12p' accounts for three cases where no subject agreement marker appears.
- Switch reference results from the binding properties of the suffixes involved but, unlike previous analyses, makes no reference to COMP or Ā-binding.
- Huanuco and Ancash Quechua differ as to whether *-r* and *-y* may be bound by a following possessive suffix; this has various morphosyntactic consequences.

References

[1] Baker, Mark. 1988. *Incorporation: A Theory of Grammatical Function Changing.* Chicago: University of Chicago Press.

[2] Baker, C. L. 1991. "The syntax of English *not*: the limits of core grammar" *Linguistic Inquiry.* Vol. 33, No. 3.

[3] Cayco Villar, Teodoro. 1988. *Pillku.* Huánuco: David Weber.

[4] Chomsky, Noam. 1981. *Lectures on Government and Binding.* Dordrecht: Foris.

[5] Chomsky, Noam. 1982. *Some Concepts and Consequences of the Theory of Government and Binding.* Cambridge: The MIT Press.

[6] Chomsky, Noam. 1986. *Barriers.* Cambridge: The MIT Press.

[7] Chomsky, Noam. 1989. "Some notes on economy of derivation and representation" in I. Laka and A. Mahajan (editors) *MIT Working Papers in Linguistics.* Vol. 10. Cambridge: MIT Department of Linguistics.

[8] Cole, Peter. manuscript. "Switch reference in two Quechua languages."

[9] Cole, Peter. 1981. "Clause Reduction in Ancash Quechua" unpublished (?) manuscript.

[10] Cole, Peter. 1982. "Headless Relative Clauses in Quechua" *International Journal of American Linguistics.* Volume 48, pages 113-125.

[11] Cole, Peter. 1983. "The Grammatical Role of the Causee in Universal Grammar" *International Journal of American Linguistics.* Volume 49, pages 115-133.

[12] Di Sciullo, Anna Maria and E. Williams. 1987. *On the Definition of Word.* Cambridge: The MIT Press.

[13] Emonds, Joseph. 1985. *A Unified Theory of Syntactic Categories.* Dordrecht: Foris.

[14] Finer, Daniel. 1985a. *The Formal Grammar of Switch Reference.* New York: Garland.

[15] Finer, Daniel. 1985b. "The Grammar of Switch Reference" *Linguistic Inquiry* Vol. 16, pages 35-56.

[16] Gorbet, Larry. 1976. *A Grammar of Digueño Nominals.* New York: Garland (quoted in Finer [15]).

[17] Hale, Ken. 19??. "Preliminary Remarks on Configurationality" J. Pustejovsky and P. Sells (editors). *Proceedings of the Twelfth Annual Meeting of the North Eastern Linguistic Society* p. 86-96 Amherst.

[18] Hale, Ken. 1983. "Warlpiri and the grammar of non-configurational languages" *Natural Language and Linguistic Theory.* Vol. 1, p. 1-43.

[19] Hale, Ken and P. Platero. 1985. "Parts of Speech" in Muysken, Pieter and H. van Riemsdijk (editors). *Features and Projections.* Dordrecht: Foris.

[20] Hermon, Gabriella. 1985. *Syntactic Modularity.* Dordrecht: Foris.

[21] Lefebvre, Claire and P. Muysken. 1988. *Mixed Categories: Nominalizations in Quechua.* Dordrecht: Kluwer.

[22] Miller, John Michael. 1989. *Sentential Complementation in Huaraz Quechua: A Typological-Functional Study.* M.A. thesis. University of Texas at Arlington.

[23] Milliken, Margret. "Quechua Person Reference" *Cornell Working Papers in Linguistics* No. 5.

[24] Muysken, Pieter. 1977. *Syntactic Developments in the Verb Phrase of Ecuadorian Quechua.* Lisse: Peter de Ridder.

[25] Muysken, Pieter. 1981. "The theory of morphological control" *Proceedings of the North Eastern Linguistic Society.* Vol. 11, p. 219-234.

[26] Muysken, Pieter. 1981. "Quechua Word Structure" in Heny, Frank (editor) *Binding and Filtering.* London: Croom Helm.

[27] Pantoja Ramos, Santiago, J. Ripkens and G. Swisshelm. 1974. *Cuentos y Relatos en el Quechua de Huaraz.* Volumes 1 and 2, *Estudios culturales bendictinos* No. 3. Huaraz, Perú: Priorato de San Benito.

[28] Parker, Gary. 1973. "Derivación Verbal en el Quechua de Ancash" Documento de Trabajo No. 25. Lima: Centro de Investigación de Lingüística Aplicada.

[29] Pollock, Jean-Yves. 1989. "Verb Movement, Universal Grammar, and the Structure of IP" *Linguistic Inquiry* Vol. 20, p. 365-424.

[30] Quesada, Félix. 1976. *Gramática Quechua: Cajamarca-Cañaris.* Lima: Ministerio de Educación.

[31] Roberts, John. "Amele Switch-Reference and the Theory of Grammar" *Linguistic Inquiry* Vol. 19, p. 45-63.

[32] Stewart, Ann. 1987. *Clause-combining in Conchucos Quechua Discourse.* Ph.D. dissertation. University of California at Los Angeles.

[33] Stowell, Timothy. 1981. *Origins of Phrase Structure* Ph.D. dissertation. Massachusetts Institute of Technology.

[34] van Riemsdijk, Henk and E. Williams. 1986. *Introduction to the Theory of Grammar.* Cambridge: The MIT Press.

[35] Weber, David. 1976. *Bases para el estudio de la relativización con referencia al quechua.* Documentos de Trabajo, No. 10. Yarinacocha: Instituto Lingüístico de Verano.

[36] Weber, David. 1976. *Los sufijos posesivos en el quechua del huallaga (Huánuco).* Documentos de Trabajo, No. 12. Yarinacocha: Instituto Lingüístico de Verano.

[37] Weber, David. 1976. *Suffix-as-Operator Analysis and the Grammar of Successive Encoding.* Documentos de Trabajo, No. 13. Yarinacocha: Instituto Lingüístico de Verano.

[38] Weber, David. 1983a. *Relativization and Nominalized Clauses in Huallaga (Huánuco) Quechua.* UC Publications in Linguistics, Vol. 103. Berkeley: University of California Press.

[39] Weber, David. 1983b. "The Relationship of Morphology and Syntax: Evidence from Quechua" Work Papers, Vol. 27, p. 161-181. Grand Forks, North Dakota: Summer Institute of Linguistics.

[40] Weber, David. 1987. *Juan del Oso*, Serie Lingüística Peruana, No. 26. Yarinacocha: Instituto Lingüístico de Verano.

[41] Weber, David. 1987. "Sobre la morfología quechua" in *Estudios Quechua: Planificación, Historia y Gramática.* Serie Lingüística Peruana, No. 27. Yarinacocha: Instituto Lingüístico de Verano.

[42] Weber, David. 1989. *A Grammar of Huallaga (Huánuco) Quechua.* UC Publications in Linguistics, No. 112. Berkeley: University of California Press.

[43] Weber, David. forthcoming. "Some reflections on formal syntax" *Notes on Linguistics.* Dallas: Summer Institute of Linguistics.

[44] Yokoyama, Masaru. 1951. "Outline of Kechua structure: I. Morphology" *Language.* Vol. 27, pages 38-67.